



*Driven by performance*

October 15, 2016

Remediation and Reuse Branch  
Land and Chemicals Division  
United States Environmental Protection Agency, Region 5  
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Attention: Ms. Jean Greensley  
Corrective Action Section

Subject: Progress Report, Second and Third Quarters 2016  
MAHLE Behr Properties Management, LLC  
250 Northwoods Blvd.  
Vandalia, Ohio  
US EPA ID #OH0 000 048 454

Dear Ms. Greensley:

This submittal constitutes the progress report for work undertaken during the second and third quarters of 2016, related to the above-referenced Facility. As you are aware, MAHLE Behr Properties Management LLC ("MAHLE") continues to operate a migration control system and manage an existing remediation project at this location while MAHLE and the United States Environmental Protection Agency ("EPA") continue their negotiations.

**Work Performed Second Quarter 2016 (April 1, 2016 – June 30, 2016) and Third Quarter 2016 (July 1, 2016 – September 30, 2016)**

- Surface water samples from two (2) locations along the unnamed tributary of North Creek were collected and analyzed during the Second Quarter 2016 and Third Quarter 2016 (Figure 1, Table 2).
- Conducted six (6) rounds of Deep Bedrock (Sugar Rock) and Intermediate Bedrock water level measurements, two (2) rounds of Top-of-Rock water level measurements, and two (2) rounds of Overburden water level measurements (Figures 2-15; Attachment A).
- Collected and analyzed monthly samples from groundwater migration control system monitoring points, including Deep Bedrock and Overburden (Water Table/First Sand and Second Sand) influent streams prior to treatment, and treated groundwater effluent for compliance with NPDES permit (Table 3).
- Sampled a private potable water well at 10440 Cassel Road on May 20, 2016, as part of ongoing semi-annual monitoring at this location, and transmitted results to property owner. Results show no detections of constituents of concern.
- Continued to operate the groundwater migration control system. Second and third quarter 2016 monthly discharge reports, system activity logs, site inspection checklists, and system shutdown reports are included in Attachments C-F, respectively.

- Removed carbon and associated bag filters from the migration control treatment system during April, 2016, per approval from Ohio EPA.
- Conducted a surface geophysical survey during May 17-19, 2016, in selected areas along the north property boundary in an effort to identify the nature and location of the inferred vertical conduit in the Top-of-Rock unit in the vicinity of monitoring wells MW-423S and MW-424S.
- Reconfigured monitoring well MW-301D (deep bedrock monitoring well adjacent to deep bedrock recovery well) from a flush-mount to a stickup completion on September 1, 2016, to alleviate impact of local flooding near the well after precipitation events, which has impeded measurement of water levels.
- Off-site monitoring well MW-438D (located in a City right-of-way along Waller Avenue) was observed on September 2, 2016, to be covered by soil associated with site development activities at the corner of E. National Road and Waller Avenue. After contact with the property owner of the construction site, the well was uncovered and marked with a cone. The well did not appear to be damaged.
- Submitted Three-year Assessment Report and cost estimate for financial assurance to U.S. EPA on September 29, 2016. MAHLE had requested and received U.S. EPA approval of a 90-day extension for submittal of this report, which was originally due the end of June.
- Replaced bedrock groundwater recovery well pump on September 30, 2016.
- Continued to monitor water levels in the Top-of-Rock interval using pressure transducers deployed in five selected monitoring wells during November, 2015, as part of an evaluation of recently observed changes in Top-of-Rock groundwater flow patterns. Transducers were removed from the Top-of-Rock wells on August 2, 2016. Collection and review of data are underway.
- Continued discussions with Spears Property Management (Spears) regarding access to their property for groundwater and surface water monitoring, and planned installation of one new overburden monitoring well (referenced as Well A in the 2013 Three-year Assessment). Efforts to secure an access agreement have not been successful to date. Access for monitoring on this property is provided through the Environmental Covenant recorded March 11, 2008, and access continues to be granted verbally by the property owner for each routine monitoring event. In the recently submitted 2016 Three-year Assessment Report, based on the last three years of monitoring data in upgradient monitoring well MW-730 showing VOC concentrations have returned to near detection levels, Haley & Aldrich (H&A) has recommended that the new monitoring well on Spears property not be installed. MAHLE will continue to pursue an access agreement with Spears covering work conducted on this property pursuant to the Order.
- Submitted Request for Risk-Based Cleanup associated with PCBs in concrete and soil on the demolished western portion of the site and discussed this submittal with U.S. EPA during a meeting between U.S. EPA and representatives from MAHLE and H&A on September 22, 2016. This included a risk assessment and a plan for excavation of "hot spots" in concrete and soil driving risk above U.S. EPA thresholds.
- Conducted one round of sampling associated with investigation of intermittent elevated TCE concentrations in the unnamed tributary to North Creek on August 18, 2016. This round of sampling included collection of thirteen (13) grab samples covering surface water, storm sewer discharges to the Post 3 junction box, and related storm sewer manholes. Data evaluation is underway.

## Data Collected

- Analytical results for surface water samples collected at the unnamed tributary to North Creek are included in Table 2 and illustrated on Figure 1.
- Analytical results for monthly migration control system samples are presented in Table 3.
- Analytical results from sampling of surface water, storm sewer outfalls, and storm sewer manholes will be summarized in a separate report after completion of the investigation.

## Performance Evaluation and Problems Encountered

- The bedrock groundwater migration control system was operational for approximately 88% of the second and third quarters of 2016. System downtime was related primarily to maintenance issues including: backwashing of the carbon filters, high level in air stripper sump due to increased influent flow from precipitation events, testing of system components, response to a treatment system upset, and failure of the bedrock recovery well pump. The primary downtime was related to two system shut-downs due to a treatment system upset in April (10 days) and a bedrock pump failure and replacement during September (8 days). Excluding those two events, the system was in operation approximately 97% of the time period.
- DNAPL recovery wells were inspected for the presence of DNAPL in both the second and third quarters of 2016. Based on bailer checks, no wells contained visible DNAPL; accordingly, no DNAPL recovery was performed during these quarters.
- A migration control treatment system upset was encountered during April, 2016, resulting in an exceedance of NPDES permit limitations for VOCs discharged to an unnamed tributary to the Great Miami River. Reporting of the upset was provided to Ohio EPA in accordance with the associated Ohio EPA NPDES Permit. As a result of the upset, the migration control system was out of operation for approximately 10 days between April 19 and April 29. System modifications were implemented to prevent recurrence.
- The bedrock recovery well pump failed on September 22, 2016. This is within the expected operating life range for this pump, which has typically been replaced at a frequency of approximately 18 months. This pump was replaced and system operations were restored on September 30, 2016.
- Remote communication with the groundwater migration control system PLC was lost on August 26, 2016, due to failure of the plant phone system. Outgoing communication was restored on September 7, 2016, providing alarm notification by phone and fax and daily fax notification of operating status. Dial-in connection has not been restored for remote monitoring and control. Long term remote communication alternatives are currently under consideration.
- A new planned overburden well, identified in the sampling schedule as Well A, has not yet been installed. Installation of this well, planned on Spears property north of Northwoods Blvd., has been delayed pending finalization of an access agreement with the property owner. In the recently submitted Three-year Assessment Report, based on the last three years of monitoring data in upgradient monitoring well MW-730 trending to near non-detect levels for VOCs, H&A has recommended that the new well on Spears property not be installed.

- Since January, 2014, a hydraulic low related to downward flow of groundwater from the Top-of-Rock interval to the Deep Bedrock interval (where it is captured by the Groundwater Migration Control System) appears to have shifted. Prior to this date, the center of this feature was located near MW-424S, which consistently had exhibited the lowest water level compared to surrounding Top-of-Rock wells. Since this date, MW-423S has exhibited the lowest water level in this area. Shifting patterns of groundwater flow in the Top-of-Rock interval are being evaluated using pressure transducers, which were deployed in five Top-of-Rock wells between November 2015 and August 2016. Also, a surface geophysical survey was conducted on May 17-19, 2016, in selected areas along the north property boundary, in an effort to identify the nature and location of the inferred vertical conduit, assumed to be one or more improperly abandoned historic water supply wells. Two prominent magnetic anomalies were identified in the vicinity of MW-424S and MW-423S, which appear to coincide with former structures shown on historical aerial photographs. The outcome of the evaluation of the Top-of-Rock hydraulic low will be presented to the EPA in a separate document at a future date.
- Rising VOC concentrations have been observed at Water Table monitoring well MW-806. While historical VOC concentrations in this well have been at or near detectable limits, concentrations in groundwater samples collected between 2014 and 2016 have exhibited pronounced rising trends for several compounds. Concentrations of cis-1,2-DCE have risen from below detectable limits to 16,000 ug/l in the most recent sample collected in February, 2016. Also, concentrations of 1,1-DCA and vinyl chloride have risen from below detectable limits to 290 ug/l and 36 ug/l, respectively, in the most recent sample. The rising concentration trends at MW-806 suggest locally changing site conditions. Recently installed downgradient monitoring wells MW-814 and MW-815, which are screened across the Water Table and First Sand intervals, have shown no detections of VOCs. Two additional monitoring wells were proposed in the recently submitted Three-year Assessment Report (one between MW-814 and MW-815 and one between MW-814 and MW-810) to improve downgradient spacing of the monitoring well network and enhance monitoring of potential plume movement.
- Intermittent elevated VOC concentrations have been observed in surface water samples collected from the unnamed tributary to North Creek. The series of concentration peaks, which typically occur during wetter seasons, have suggested a generally increasing trend in VOC concentrations. An investigation to identify possible sources of VOCs in surface water is currently in progress.

### Project Schedule

- An updated project schedule is included in Attachment G.

Feel free to contact me at (248) 743-3758 if you have any questions or require additional information.

Sincerely,



James Hunt

Project Manager for MAHLE Behr Properties LLC

MAHLE Industries, Incorporated

[jim.hunt@us.mahle.com](mailto:jim.hunt@us.mahle.com)

Enclosures:

Tables

- 1 Schedule of Groundwater Sampling/Water Level Measurements
- 2 Second Quarter and Third Quarter 2016 Analytical Results, Surface Water Samples
- 3 Second Quarter and Third Quarter 2016 Performance Monitoring Analytical Data, Groundwater Migration Control System

Figures

- 1 Second and Third Quarter 2016 TCE in Surface Water
- 2 Potentiometric Surface Contours, Shallow Water Table Zone, 23 June 2016
- 3 Potentiometric Surface Contours, Shallow Water Table Zone, 19 August 2016
- 4 Potentiometric Surface Contours, First Sand Zone, 23 June 2016
- 5 Potentiometric Surface Contours, First Sand Zone, 19 August 2016
- 6 Potentiometric Surface Contours, Second Sand Zone, 23 June 2016
- 7 Potentiometric Surface Contours, Second Sand Zone, 19 August 2016
- 8 Potentiometric Surface Contours, Top of Bedrock Zone, 3 May 2016
- 9 Potentiometric Surface Contours, Top of Bedrock Zone, 12 July 2016
- 10 Deep Bedrock Potentiometric Surface Contours, 1 April 2016
- 11 Deep Bedrock Potentiometric Surface Contours, 25 May 2016
- 12 Deep Bedrock Potentiometric Surface Contours, 13 June 2016
- 13 Deep Bedrock Potentiometric Surface Contours, 7 July 2016
- 14 Deep Bedrock Potentiometric Surface Contours, 3 August 2016
- 15 Deep Bedrock Potentiometric Surface Contours, 2 September 2016

Attachments

- A Water Level Measurements
- B Data Usability Summary Reports
- C Groundwater Migration Control System Monthly Discharge Reports
- D Groundwater Migration Control System Activity Log
- E Groundwater Migration Control System Inspection Checklists
- F Bedrock Groundwater Migration Control System Shutdown Reports
- G Project Schedule

## Tables

**TABLE 1**  
**2016-2017 GROUNDWATER SAMPLING / WATER LEVEL MEASUREMENTS**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

**Sampling**

Location	Unit	Frequency	2Q-2016	3Q-2016	4Q-2016	1Q-2017
CSX-18D	SR	15 months				
MW-402D	SR	15 months				
MW-411D	SR	15 months				
MW-412D	SR	15 months				
MW-413D	SR	9 months			✓	
MW-416D	SR	9 months			✓	
MW-417D	SR	9 months			✓	
MW-418D	SR	9 months			✓	
MW-420M	MB	9 months			✓	
MW-420D	SR	9 months			✓	
MW-424D	SR	15 months				
MW-434D	SR	15 months				
MW-435D	SR	15 months				
MW-444D	SR	15 months				
MW-453D	SR	15 months				

MW-301S	TOR	15 months				
MW-415S	TOR	15 months				
MW-425S	TOR	9 months			✓	
MW-426S	TOR	15 months				
MW-445S	TOR	15 months				
MW-446S	TOR	15 months				

MW-784	WT	15 months				
MW-806	WT	9 months			✓	
MW-810	WT	9 months			✓	
MW-607	WT/S1	9 months			✓	
MW-729	WT/S1	15 months				
MW-734	WT/S1	15 months				
MW-775	WT/S1	9 months			✓	
MW-793	WT/S1	15 months				
MW-796	WT/S1	15 months				
MW-776	WT/S1	9 months			✓	
VPW-103	WT/S1	15 months				
MW-730	S1	9 months			✓	
MW-732	S1	9 months			✓	
MW-809	S1/S2	15 months				
MW-787	WT	15 months				
MW-715	S1	15 months				
Well A*	S1	9 months			✓	
MW-814	WT/S1	9 months			✓	
MW-815	WT/S1	9 months			✓	

MW-515	S2	15 months				
MW-605	S2	9 months			✓	
MW-717	S2	9 months			✓	
MW-725	S2	9 months			✓	
MW-731	S2	9 months			✓	
MW-740	S2	9 months			✓	
MW-741	S2	9 months			✓	
MW-742	S2	15 months				
MW-743	S2	9 months			✓	
MW-746	S2	15 months				
MW-759	S2	9 months			✓	
MW-800	S2	9 months			✓	
MW-807	S2	15 months				

SW-1	North Creek	Quarterly	✓	✓	✓	✓
SW-4	North Creek	Quarterly	✓	✓	✓	✓
B005	SR Spring	9 months			✓	
B006	SR Spring	9 months			✓	
C001	SR Spring	9 months			✓	
D001	SR Spring	9 months			✓	
E001	SR Spring	9 months			✓	
E002	SR Spring	9 months			✓	
F001	SR Spring	9 months			✓	
G004	SR Spring	9 months			✓	
G006	SR Spring	9 months			✓	

**Water Level Measurements**

Unit	Frequency
All SR / MB wells	Monthly
All TOR wells	Quarterly
All Overburden wells	Quarterly

**Unit Key**

Unit	Description
WT	Water Table
S1	First Sand
S2	Second Sand
TOR	Top Of Rock
MB	Middle Brassfield
SR	Sugar Rock

**Notes:**

1. \* Denotes wells to be installed and their sampling schedule. Actual well nomenclature will be made after installation.

**TABLE 2**  
**SECOND QUARTER AND THIRD QUARTER 2016 ANALYTICAL RESULTS**  
**SURFACE WATER SAMPLES**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

	Location Group		North Creek		
	Location	SW-1	SW-1	SW-4	SW-4
	Sample Date	06/29/2016	08/18/2016	06/29/2016	08/18/2016
	Sample Type	N	N	N	N
<b>Volatile Organic Compounds (ug/L)</b>					
1,1,1-Trichloroethane		< 1	<b>0.63 J</b>	<b>4.1</b>	<b>12</b>
1,1-Dichloroethane		< 1	< 1	<b>1.1 J</b>	<b>1.4 J</b>
cis-1,2-Dichloroethene		<b>0.67 J</b>	<b>3.2</b>	<b>33</b>	<b>53</b>
Trichloroethene		<b>0.83 J</b>	<b>8.2</b>	<b>42</b>	<b>140</b>
Vinyl chloride		< 1	< 1	<b>1.9</b>	<b>2.4 J</b>

**Notes:**

1. Summary includes compounds detected in one or more samples
2. Analysis methods SW8260.
3. See Figure 1 for sample locations.
4. <: Result is below the indicated reporting limit.  
J: Estimated result.
5. Sample type codes: N - Normal



**TABLE 3**  
**SECOND QUARTER AND THIRD QUARTER 2016**  
**PERFORMANCE MONITORING ANALYTICAL DATA**  
**GROUNDWATER MIGRATION CONTROL SYSTEM**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

	BRIN-041416	OBIN-041416	SSIN-041416	PREAS-041416	PRECAR-041416	EFF-041416
	04/14/2016	04/14/2016	04/14/2016	04/14/2016	04/14/2016	04/14/2016
	Sugar Rock	Overburden	Second Sand		Pre Carbon	
	Recovery Well	Recovery Well	Recovery Well	Pre Air Stripper	Vessels	Effluent
<b>Volatile Organic Compounds (ug/L)</b>						
1,1,1-Trichloroethane	< 50	<b>551</b>	< 200	< 100	< 50	< 50
1,1-Dichloroethane	< 50	< 400	<b>213</b>	< 100	< 50	< 50
cis-1,2-Dichloroethene	<b>847 F1</b>	<b>1320</b>	<b>2400</b>	<b>1100</b>	<b>296</b>	<b>322</b>
Trichloroethene	<b>2610</b>	<b>14600</b>	<b>10100</b>	<b>4410</b>	<b>1300</b>	<b>1190</b>
<b>Lab Method: SM4500 H+B</b>						
pH (lab) - S.U. (standard units)	-	-	-	<b>7.19 HF</b>	-	<b>7.53 HF</b>

**Notes:**

1. < #: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
2. Results in bold are detected.
3. Analysis method for Volatile Organic Compounds is EPA 624.
4. Lab qualifiers:  
 F1: MS and/or MSD Recovery is outside acceptance limits.  
 HF: Field parameter with a holding time of 15 minutes.

**TABLE 3**  
**SECOND QUARTER AND THIRD QUARTER 2016**  
**PERFORMANCE MONITORING ANALYTICAL DATA**  
**GROUNDWATER MIGRATION CONTROL SYSTEM**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

	PREAS-041916 04/19/2016 Pre Air Stripper	PRECAR-041916 04/19/2016 Pre Carbon Vessels	EFF-041916 04/19/2016 Effluent
<b>Volatile Organic Compounds (ug/L)</b>			
1,1,1-Trichloroethane	< 50	< 1	< 10
1,1-Dichloroethane	< 50	< 1	< 10
cis-1,2-Dichloroethene	<b>746</b>	< 1	<b>100</b>
Trichloroethene	<b>2430</b>	<b>1.31</b>	<b>255</b>
<b>Lab Method: SM4500 H+B</b>			
pH (lab) - S.U. (standard units)	<b>7.13 HF</b>	-	<b>8.40 HF</b>

**Notes:**

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**TABLE 3**  
**SECOND QUARTER AND THIRD QUARTER 2016**  
**PERFORMANCE MONITORING ANALYTICAL DATA**  
**GROUNDWATER MIGRATION CONTROL SYSTEM**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

	BRIN-050516 05/05/2016 Sugar Rock Recovery Well	OBIN-050516 05/05/2016 Overburden Recovery Well	PREAS-050516 05/05/2016 Pre Air Stripper	PREBF-050516 05/05/2016 Pre Bag Filter	EFF-050516 05/05/2016 Effluent
<b>Volatile Organic Compounds (ug/L)</b>					
1,1,1-Trichloroethane	< 50	<b>331</b>	< 100	< 1	< 1
1,1-Dichloroethane	< 50	< 200	< 100	< 1	< 1
cis-1,2-Dichloroethene	<b>951</b>	<b>1380</b>	<b>987</b>	< 1	< 1
Trichloroethene	<b>2630</b>	<b>13100</b>	<b>3460</b>	<b>1.61</b>	< 1
<b>Lab Method: SM4500 H+B</b>					
pH (lab) - S.U. (standard units)	-	-	<b>7.41</b>	-	<b>8.60</b>

**Notes:**

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 F1: MS and/or MSD Recovery is outside acceptance limits.  
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**TABLE 3**  
**SECOND QUARTER AND THIRD QUARTER 2016**  
**PERFORMANCE MONITORING ANALYTICAL DATA**  
**GROUNDWATER MIGRATION CONTROL SYSTEM**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

	PREAS-051616 05/16/2016	PREBF-051616 05/16/2016	EFF-051616 05/16/2016
	Pre Air Stripper	Pre Bag Filter	Effluent
<b>Volatile Organic Compounds (ug/L)</b>			
1,1,1-Trichloroethane	< 100	< 1	< 1
1,1-Dichloroethane	< 100	< 1	< 1
cis-1,2-Dichloroethene	<b>967</b>	< 1	< 1
Trichloroethene	<b>4070</b>	< 1	< 1
<b>Lab Method: SM4500 H+B</b>			
pH (lab) - S.U. (standard units)	<b>7.46 HF</b>	-	<b>8.67 HF</b>

**Notes:**

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4. Lab qualifiers:  
 F1: MS and/or MSD Recovery is outside acceptance limits.  
 HF: Field parameter with a holding time of 15 minutes.

**TABLE 3**  
**SECOND QUARTER AND THIRD QUARTER 2016**  
**PERFORMANCE MONITORING ANALYTICAL DATA**  
**GROUNDWATER MIGRATION CONTROL SYSTEM**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

	BRIN-061016 06/10/2016 Sugar Rock Recovery Well	OBIN-061016 06/10/2016 Overburden Recovery Well	SSIN-061016 06/10/2016 Second Sand Recovery Well	PREAS-061016 06/10/2016 Pre Air Stripper	PREBF-061016 06/10/2016 Pre Bag Filter	EFF-061016 06/10/2016 Effluent
<b>Volatile Organic Compounds (ug/L)</b>						
1,1,1-Trichloroethane	< 50	<b>171</b>	< 200	<b>65.8</b>	< 1	< 1
1,1-Dichloroethane	< 50	< 100	< 200	< 50	< 1	< 1
cis-1,2-Dichloroethene	<b>717</b>	<b>422</b>	<b>2460</b>	<b>653</b>	< 1	< 1
Trichloroethene	<b>2360</b>	<b>5090</b>	<b>12000</b>	<b>3930</b>	<b>1.19</b>	<b>1.34</b>
<b>Lab Method: SM4500 H+B</b>						
pH (lab) - S.U. (standard units)	-	-	-	<b>7.18 HF</b>	-	<b>8.55 HF</b>

**Notes:**

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2. Results in bold are detected.
3. Analysis method for Volatile Organic Compounds is EPA 624.
4. Lab qualifiers:  
 F1: MS and/or MSD Recovery is outside acceptance limits.  
 HF: Field parameter with a holding time of 15 minutes.

**TABLE 3**  
**SECOND QUARTER AND THIRD QUARTER 2016**  
**PERFORMANCE MONITORING ANALYTICAL DATA**  
**GROUNDWATER MIGRATION CONTROL SYSTEM**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

	BRIN-070616 07/06/2016 Sugar Rock Recovery Well	OBIN-070616 07/06/2016 Overburden Recovery Well	SSIN-070616 07/06/2016 Second Sand Recovery Well	PREAS-070616 07/06/2016 Pre Air Stripper	PREBF-070616 07/06/2016 Pre Bag Filter	EFF-070616 07/06/2016 Effluent
<b>Volatile Organic Compounds (ug/L)</b>						
1,1,1-Trichloroethane	< 50	<b>351</b>	< 200	< 100	< 1	< 1
1,1-Dichloroethane	< 50	<b>65.8</b>	<b>217</b>	< 100	< 1	< 1
cis-1,2-Dichloroethene	<b>690</b>	<b>1040</b>	<b>2350</b>	<b>777</b>	< 1	< 1
Trichloroethene	<b>1880</b>	<b>8840</b>	<b>9540</b>	<b>2620</b>	< 1	< 1
<b>Lab Method: SM4500 H+B</b>						
pH (lab) - S.U. (standard units)	-	-	-	<b>7.27 HF</b>	-	<b>8.24 HF</b>

**Notes:**

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F1: MS and/or MSD Recovery is outside acceptance limits.  
HF: Field parameter with a holding time of 15 minutes.

**TABLE 3**  
**SECOND QUARTER AND THIRD QUARTER 2016**  
**PERFORMANCE MONITORING ANALYTICAL DATA**  
**GROUNDWATER MIGRATION CONTROL SYSTEM**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

	BRIN-080216-1125 08/02/2016 Sugar Rock Recovery Well	SSIN-080216-1140 08/02/2016 Second Sand Recovery Well	PREAS-080216-1100 08/02/2016 Pre Air Stripper	EFF-080216-1115 08/02/2016 Effluent
<b>Volatile Organic Compounds (ug/L)</b>				
1,1,1-Trichloroethane	< 40	< 40	< 50	< 1
1,1-Dichloroethane	< 40	< 40	< 50	< 1
cis-1,2-Dichloroethene	<b>630</b>	<b>589</b>	<b>694</b>	< 1
Trichloroethene	<b>1990</b>	<b>1960</b>	<b>2360</b>	<b>1.17</b>
<b>Lab Method: SM4500 H+B</b>				
pH (lab) - S.U. (standard units)	-	-	<b>7.2 HF</b>	<b>8.6 HF</b>

**Notes:**

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2. Results in bold are detected.
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4. Lab qualifiers:  
F1: MS and/or MSD Recovery is outside acceptance limits.  
HF: Field parameter with a holding time of 15 minutes.

**TABLE 3**  
**SECOND QUARTER AND THIRD QUARTER 2016**  
**PERFORMANCE MONITORING ANALYTICAL DATA**  
**GROUNDWATER MIGRATION CONTROL SYSTEM**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

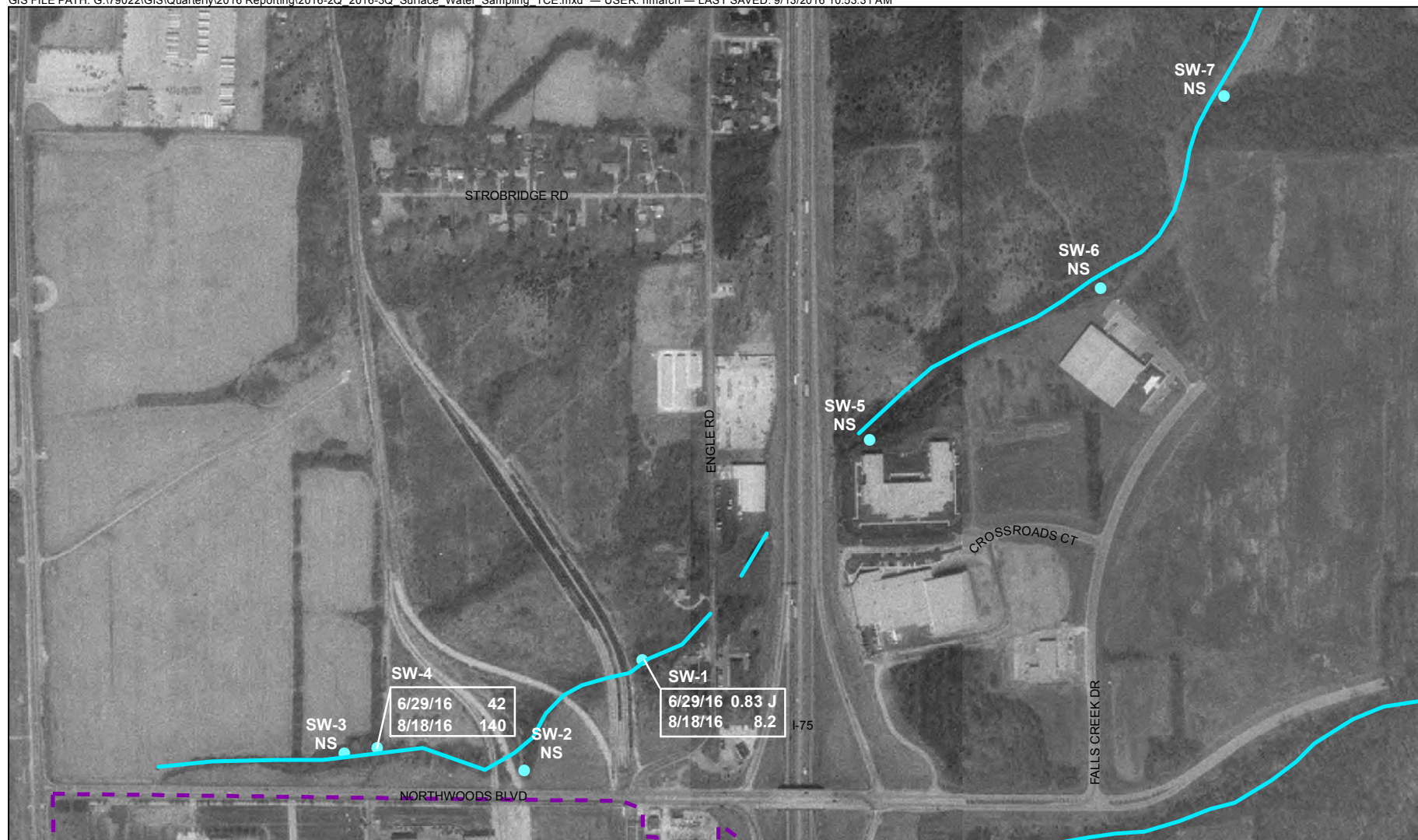
	BRIN-090616 09/06/2016 Sugar Rock Recovery Well	OBIN-090616 09/06/2016 Overburden Recovery Well	SSIN-090616 09/06/2016 Second Sand Recovery Well	PREAS-090616 09/06/2016 Pre Air Stripper	EFF-090616 09/06/2016 Effluent
<b>Volatile Organic Compounds (ug/L)</b>					
1,1,1-Trichloroethane	< 50	<b>362</b>	< 200	< 50	< 1
1,1-Dichloroethane	< 50	< 250	<b>200</b>	< 50	< 1
cis-1,2-Dichloroethene	<b>643</b>	<b>1320</b>	<b>2420</b>	<b>717</b>	< 1
Trichloroethene	<b>2070</b>	<b>13100</b>	<b>10800</b>	<b>2870</b>	<b>1.39</b>
<b>Lab Method: SM4500 H+B</b>					
pH (lab) - S.U. (standard units)	-	-	-	<b>7.2 HF</b>	<b>8.6 HF</b>

**Notes:**

1. < #: The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
2. Results in bold are detected.
3. Analysis method for Volatile Organic Compounds is EPA 624.
4. Lab qualifiers:  
 F1: MS and/or MSD Recovery is outside acceptance limits.  
 HF: Field parameter with a holding time of 15 minutes.



## Figures



## LEGEND

- APPROXIMATE FACILITY BOUNDARY
- APPROXIMATE LOCATION OF THE UNNAMED TRIBUTARY OF NORTH CREEK
- SW-1  
25  
 APPROXIMATE SAMPLE LOCATION WITH TCE RESULT IN ug/l
- NS  
 NOT SAMPLED



0 300 600  
SCALE IN FEET

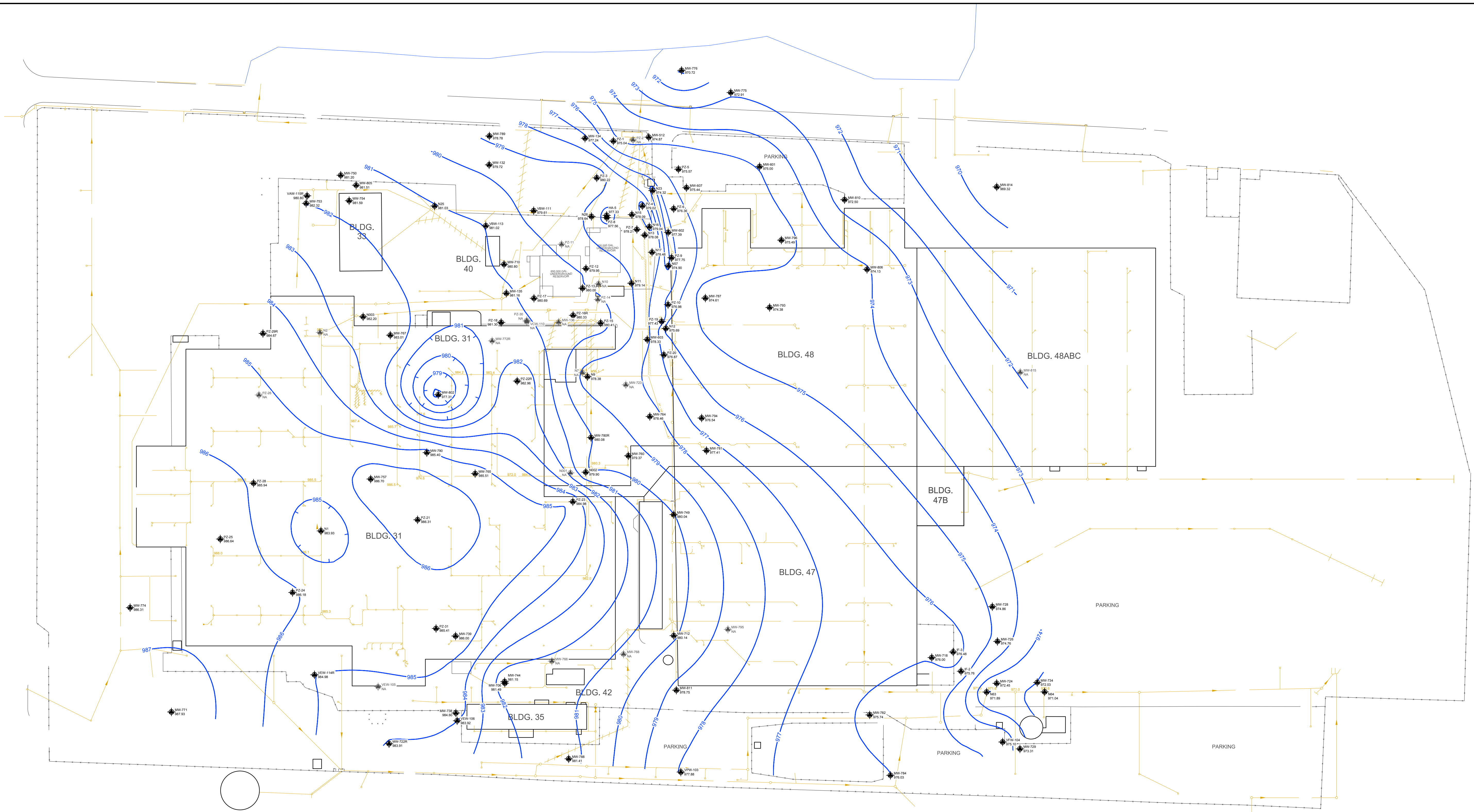
**HALEY  
ALDRICH**

MAHLE BEHR DAYTON LLC  
VANDALIA, OHIO

## SECOND & THIRD QUARTER 2016 SURFACE WATER SAMPLING LOCATIONS AND TCE RESULTS

SCALE: AS SHOWN  
OCTOBER 2016

FIGURE 1

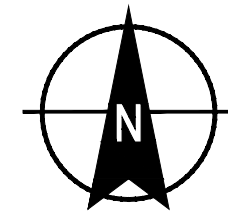


LEGEND

- 980 ————— POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
- MW-771 ——— MONITORING WELL SCREENED IN THE SHALLOW WATER TABLE ZONE
- MW-771 N/A ——— MONITORING WELL NOT ACCESSIBLE AT TIME OF MEASUREMENT
- STORM SEWER SYSTEM
- 972.0 ——— STORM SEWER INVERT ELEVATION
- UNNAMED TRIBUTARY OF NORTH CREEK
- TUNNELS AND BASEMENTS

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS, OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY, AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 23 JUNE 2016 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.



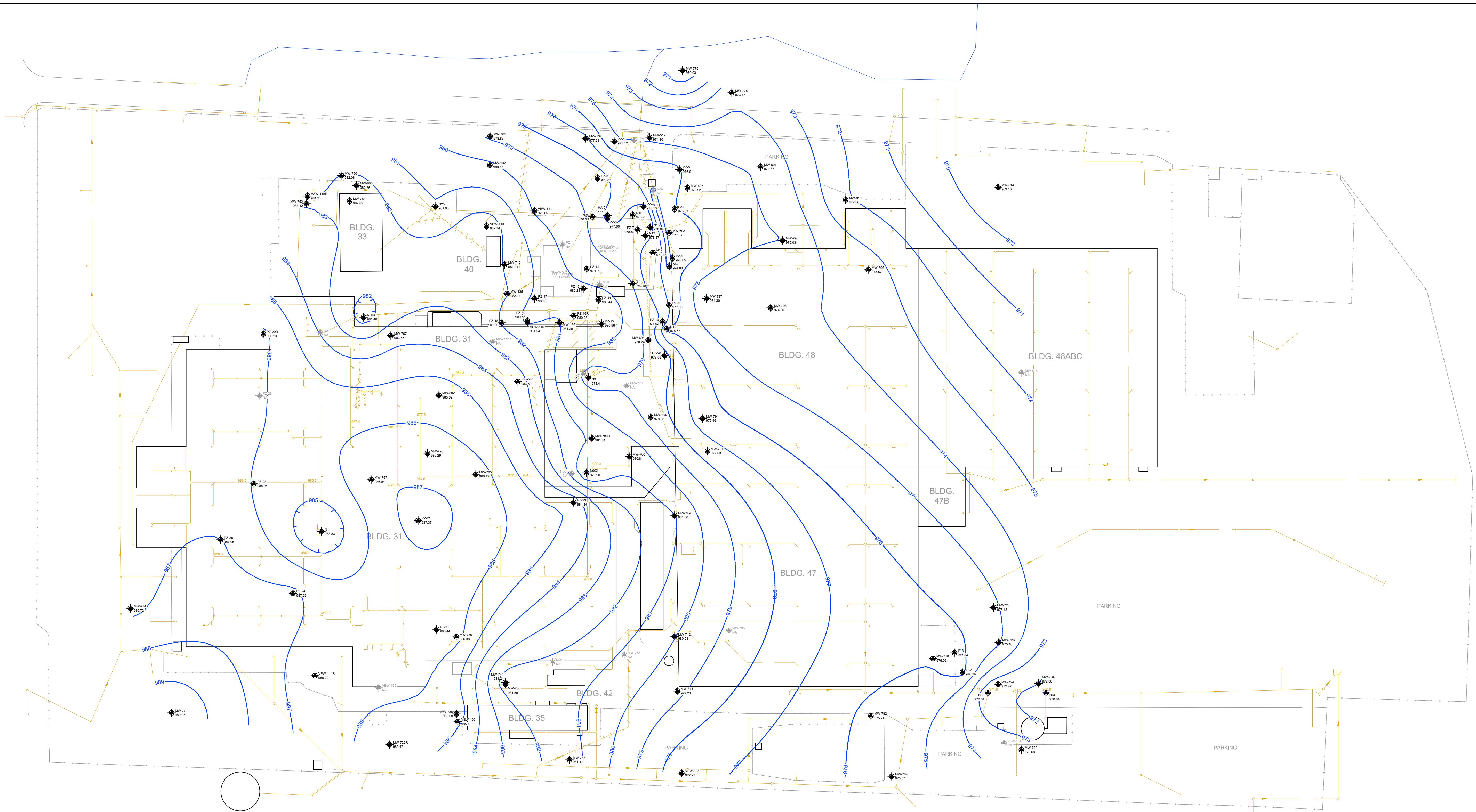
HALEY  
ALDRICH

MAHLE BEHR DAYTON LLC  
VANDALIA, OHIO

POTENTIOMETRIC SURFACE  
CONTOURS - SHALLOW WATER  
TABLE ZONE - 23 JUNE 2016

SCALE: AS SHOWN  
OCTOBER 2016



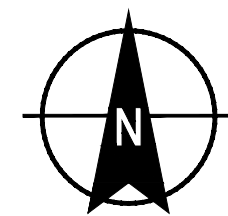


LEGEND

- 980 ————— POTENTIOMETRIC SURFACE CONTOUR WITH ELEVATION IN FEET
- MW-771 — MONITORING WELL SCREENED IN THE SHALLOW WATER TABLE ZONE
- MW-771 N/A — MONITORING WELL NOT ACCESSIBLE AT TIME OF MEASUREMENT
- STORM SEWER SYSTEM
- 972.0 — STORM SEWER INVERT ELEVATION
- UNNAMED TRIBUTARY OF NORTH CREEK
- TUNNELS AND BASEMENTS

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS, OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY, AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 19 AUGUST 2016 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.



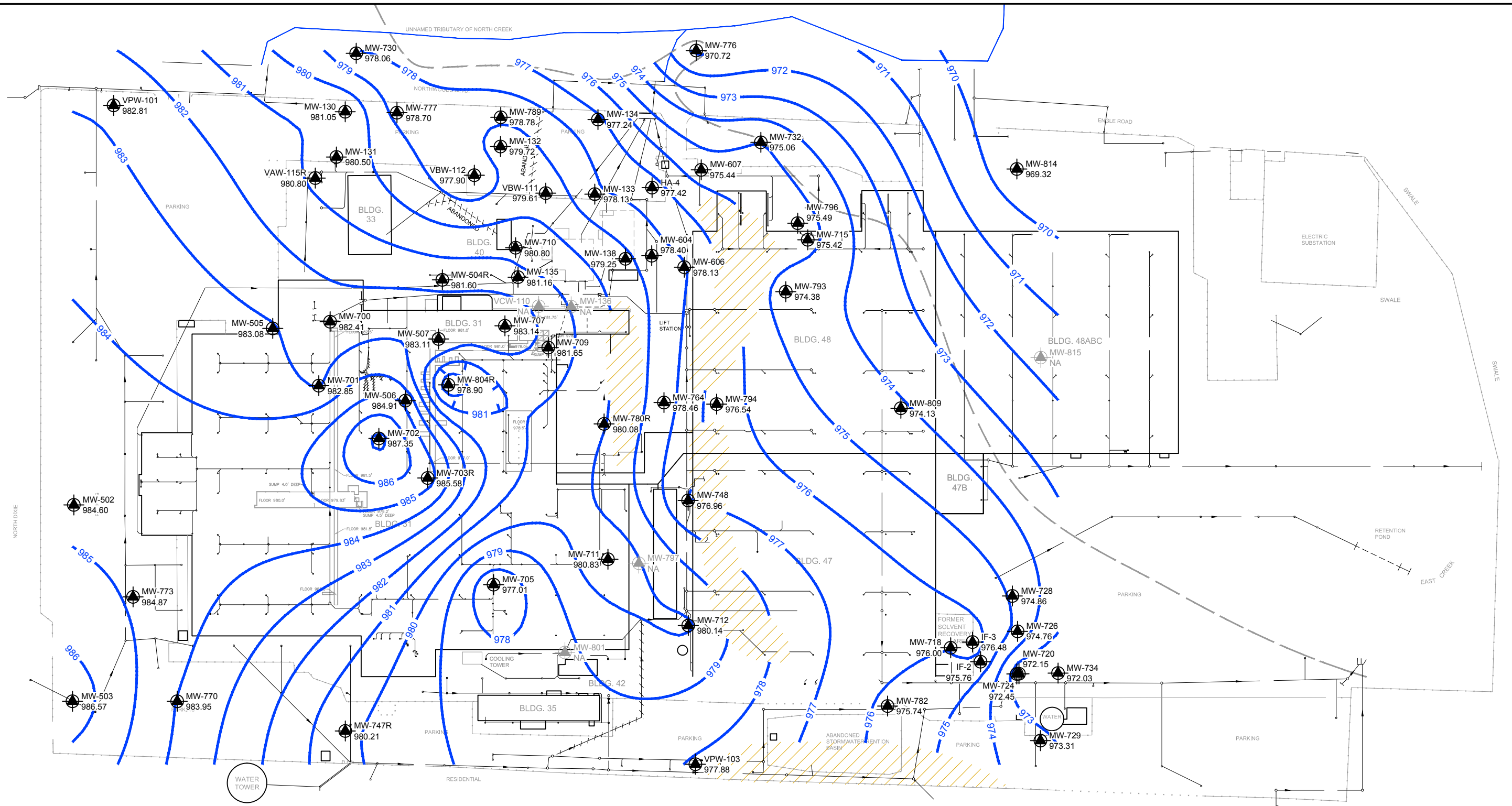
0 100 200 300 400  
SCALE IN FEET

HALEY  
ALDRICH

MAHLE BEHR DAYTON LLC  
VANDALIA, OHIO

POTENTIOMETRIC SURFACE  
CONTOURS - SHALLOW WATER  
TABLE ZONE - 19 AUGUST 2016

SCALE: AS SHOWN  
OCTOBER 2016



LEGEND

- MW-770  
984.34
- 980
- AREA DETERMINED AS NOT HAVING THE FIRST SAND UNIT (FIRST SAND UNIT MAY NOT BE PRESENT IN OTHER UNDETERMINED AREAS)
- AREA DETERMINED AS HAVING THE FIRST SAND UNIT REPLACED BY FILL DURING SEWER CONSTRUCTION
- UNNAMED TRIBUTARY OF NORTH CREEK
- APPROXIMATE LOCATION OF INTERPRETED FIRST SAND MERGE WITH SECOND SAND

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 23 JUNE 2016 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.



0 200 400  
SCALE IN FEET

HALEY  
ALDRICH

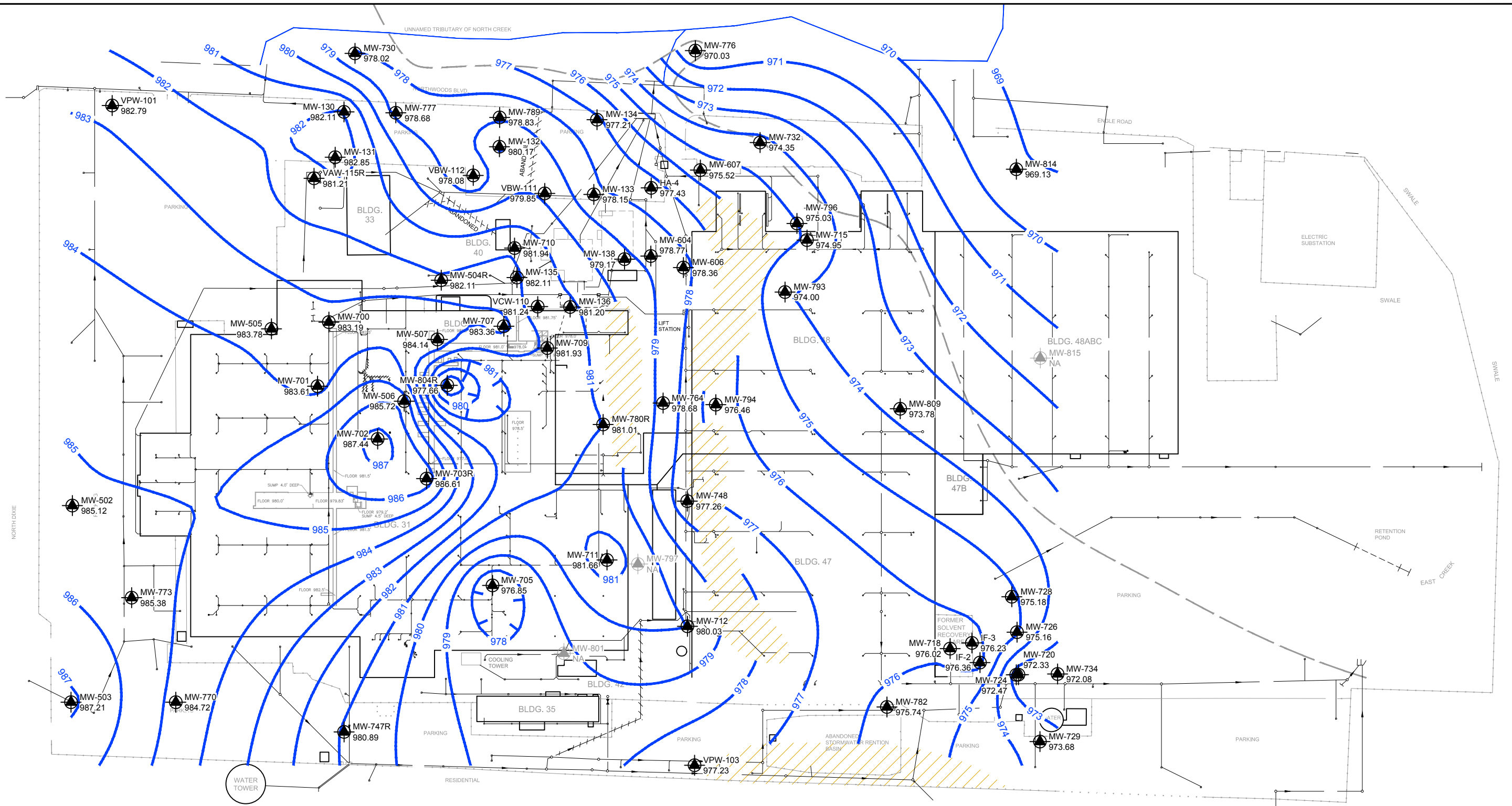
MAHLE BEHR DAYTON LLC  
VANDALIA, OHIO

POTENTIOMETRIC SURFACE  
CONTOURS - 23 JUNE 2016  
FIRST SAND ZONE

SCALE: AS SHOWN  
OCTOBER 2016

FIGURE 4





LEGEND

- MW-770  
984.34
- 980
- AREA DETERMINED AS NOT HAVING THE FIRST SAND UNIT (FIRST SAND UNIT MAY NOT BE PRESENT IN OTHER UNDETERMINED AREAS)
- AREA DETERMINED AS HAVING THE FIRST SAND UNIT REPLACED BY FILL DURING SEWER CONSTRUCTION
- UNNAMED TRIBUTARY OF NORTH CREEK
- APPROXIMATE LOCATION OF INTERPRETED FIRST SAND MERGE WITH SECOND SAND

NOTES

1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
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3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
4. WELLS THAT COULD NOT BE ACCESSED ON 19 AUGUST 2016 AND WELLS WITH PRODUCT ARE LISTED IN APPENDIX A.



0 200 400  
SCALE IN FEET

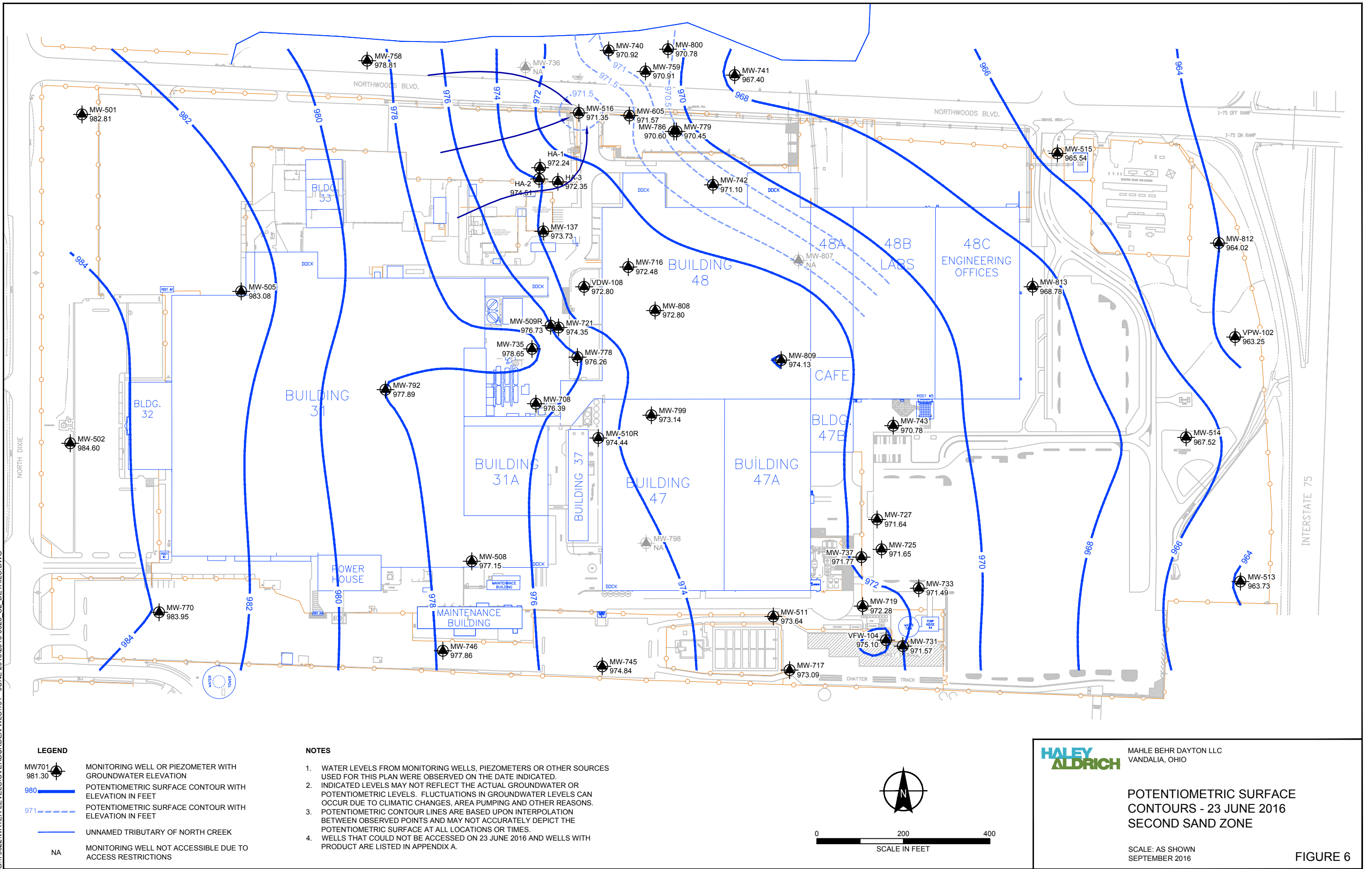
HALEY  
ALDRICH

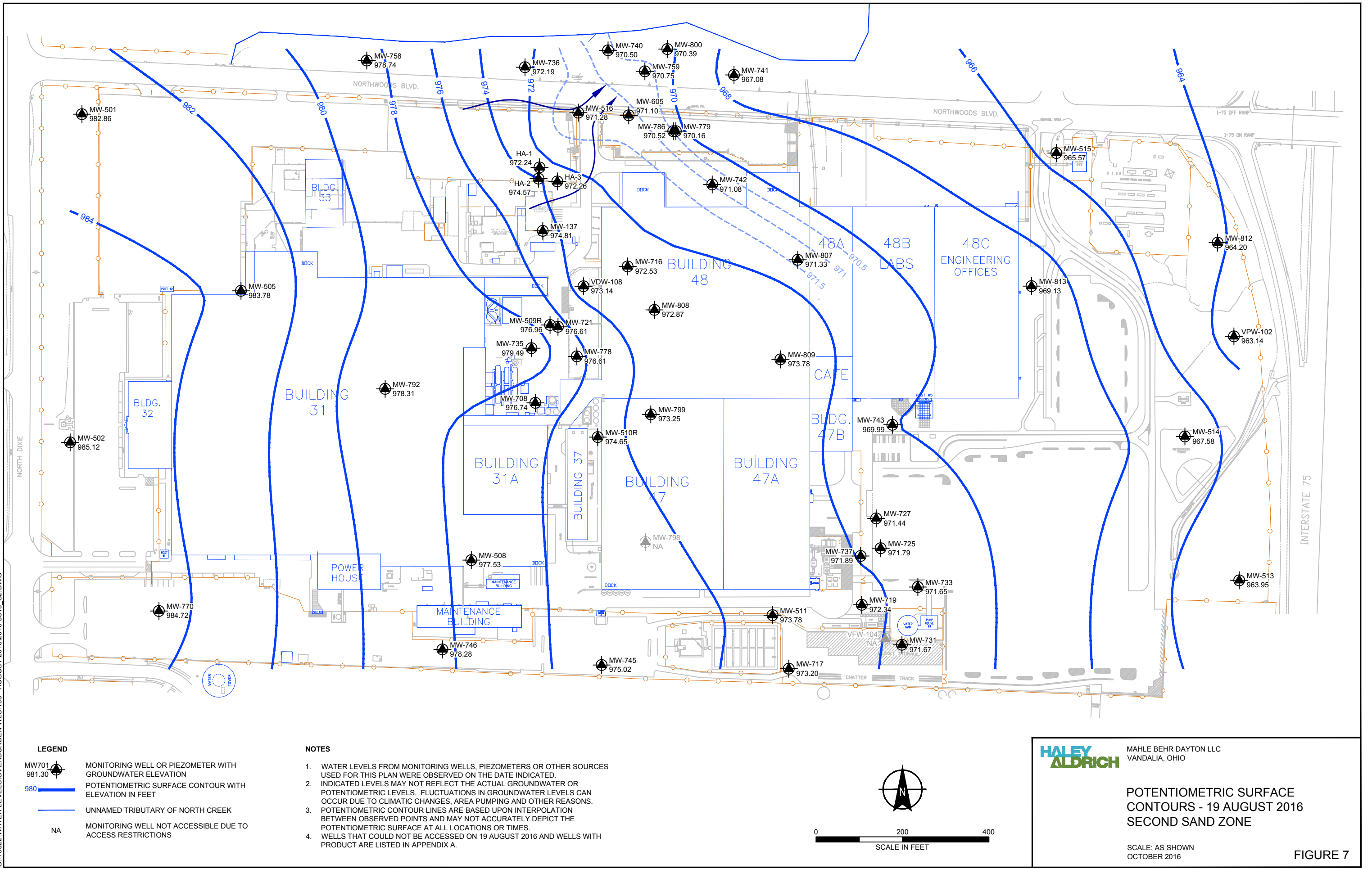
MAHLE BEHR DAYTON LLC  
VANDALIA, OHIO

POTENTIOMETRIC SURFACE  
CONTOURS - 19 AUGUST 2016  
FIRST SAND ZONE

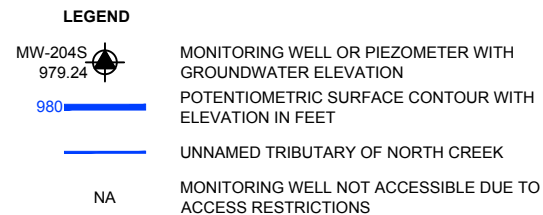
SCALE: AS SHOWN  
OCTOBER 2016

FIGURE 5

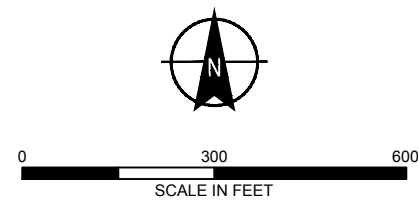
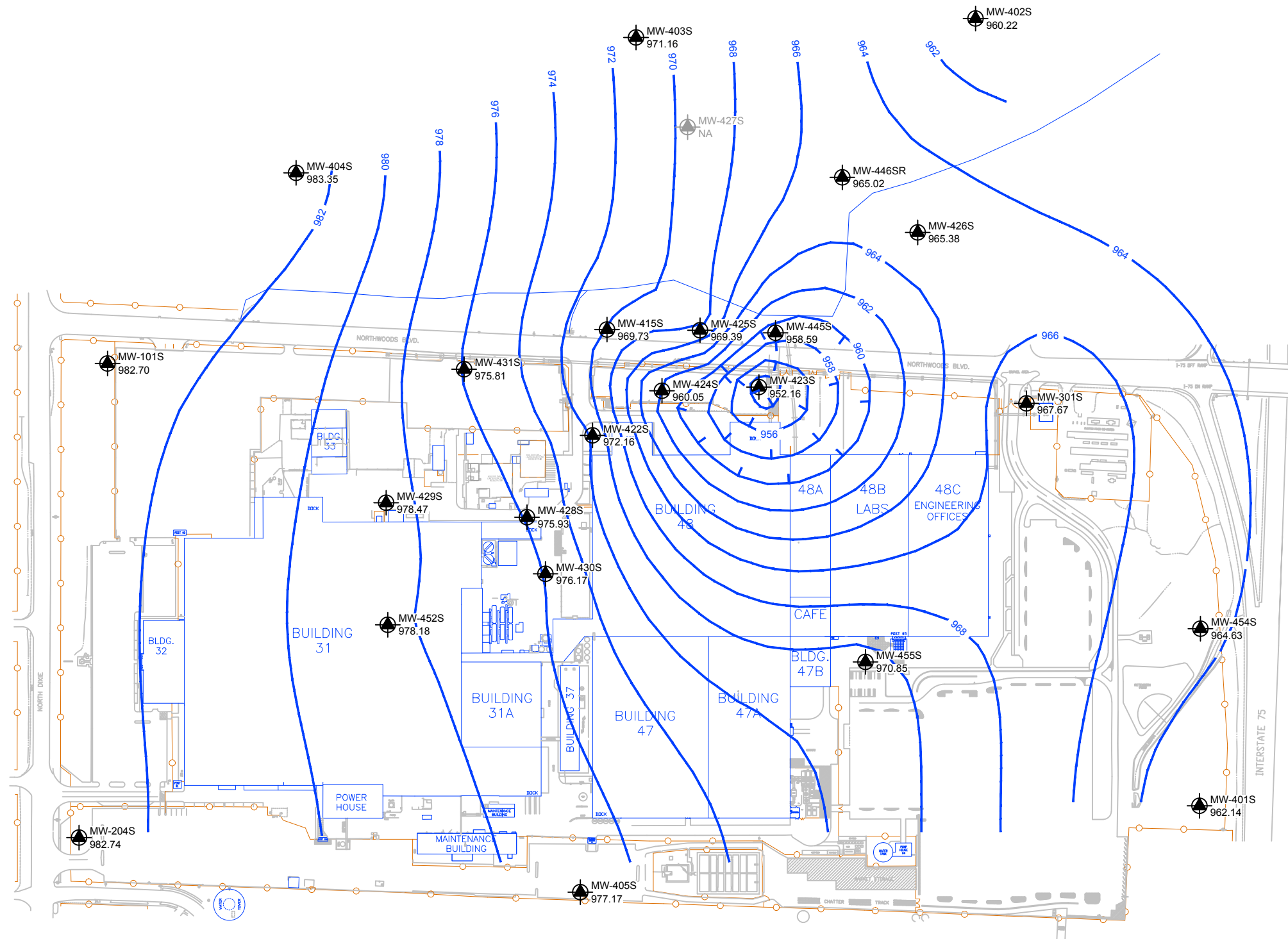








- NOTES**
1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
  2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
  3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
  4. MW-427S WAS NOT GAUGED AND THEREFORE EXCLUDED FROM THE POTENTIOMETRIC SURFACE.

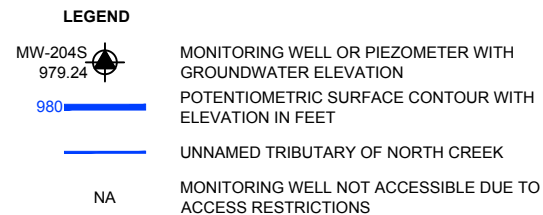


**HALEY  
ALDRICH**

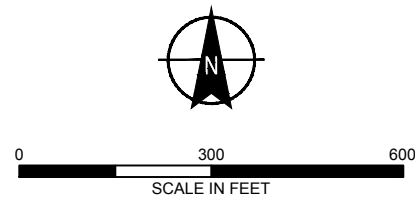
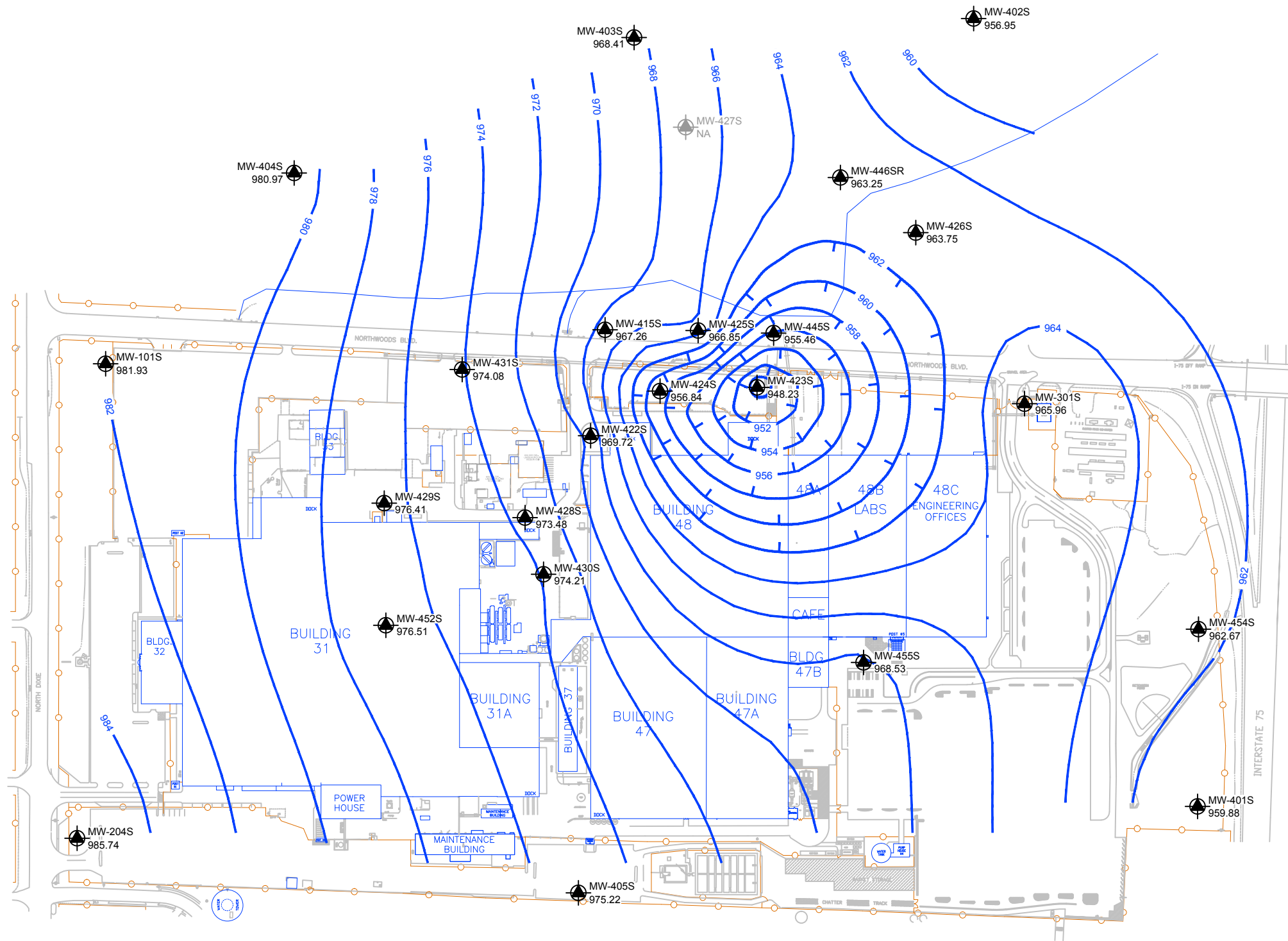
MAHLE BEHR DAYTON LLC  
VANDALIA, OHIO

**POTENTIOMETRIC SURFACE  
CONTOURS - 3 MAY 2016  
TOP OF ROCK ZONE**

SCALE: AS SHOWN  
OCTOBER 2016



- NOTES**
1. WATER LEVELS FROM MONITORING WELLS, PIEZOMETERS OR OTHER SOURCES USED FOR THIS PLAN WERE OBSERVED ON THE DATE INDICATED.
  2. INDICATED LEVELS MAY NOT REFLECT THE ACTUAL GROUNDWATER OR POTENTIOMETRIC LEVELS. FLUCTUATIONS IN GROUNDWATER LEVELS CAN OCCUR DUE TO CLIMATIC CHANGES, AREA PUMPING ACTIVITY AND OTHER REASONS.
  3. POTENTIOMETRIC CONTOUR LINES ARE BASED UPON INTERPOLATION BETWEEN OBSERVATION POINTS AND MAY NOT ACCURATELY DEPICT THE POTENTIOMETRIC SURFACE AT ALL LOCATIONS OR TIMES.
  4. MW-427S WAS NOT GAUGED AND THEREFORE EXCLUDED FROM THE POTENTIOMETRIC SURFACE.

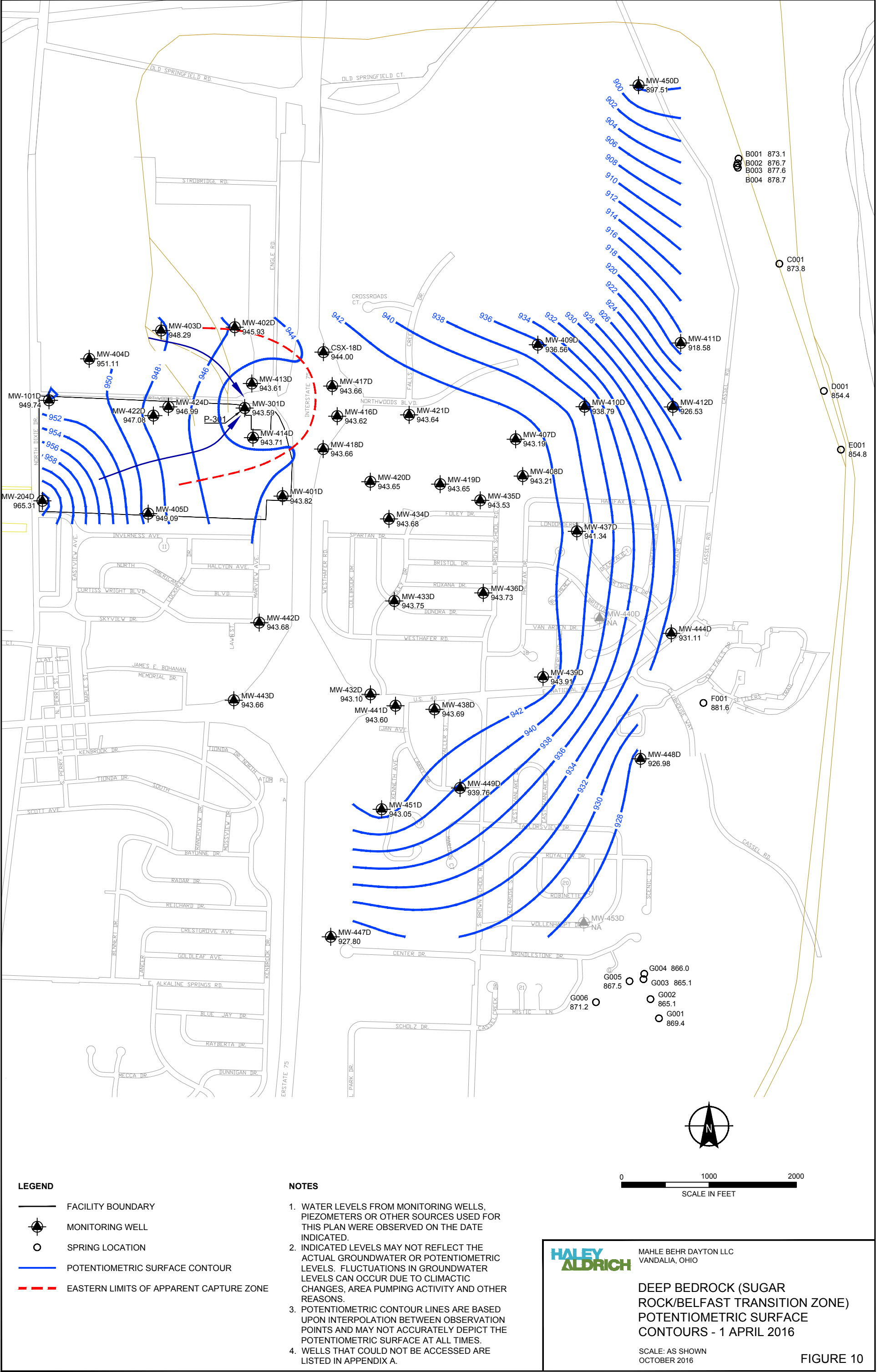


**HALEY  
ALDRICH**

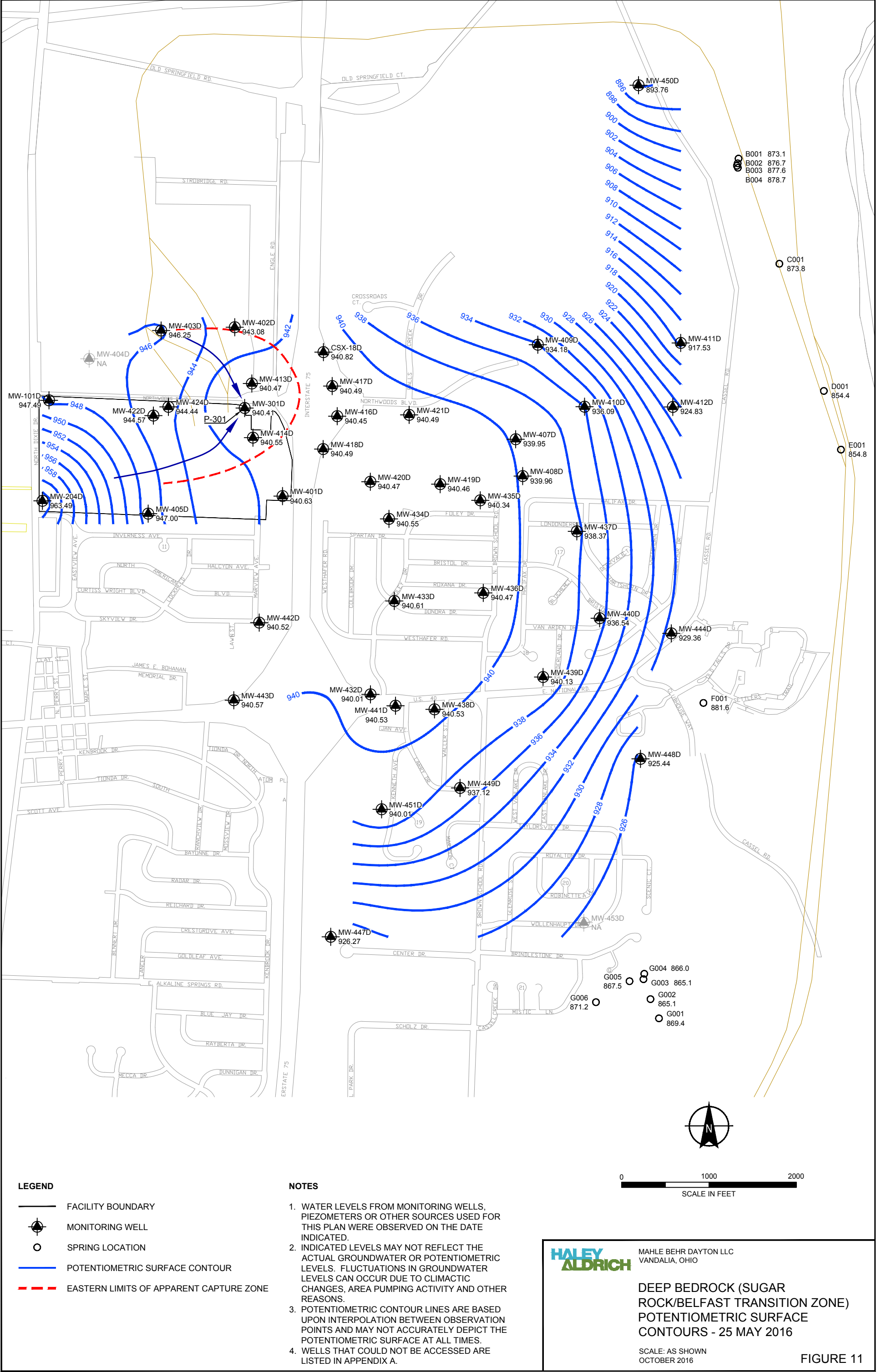
MAHLE BEHR DAYTON LLC  
VANDALIA, OHIO

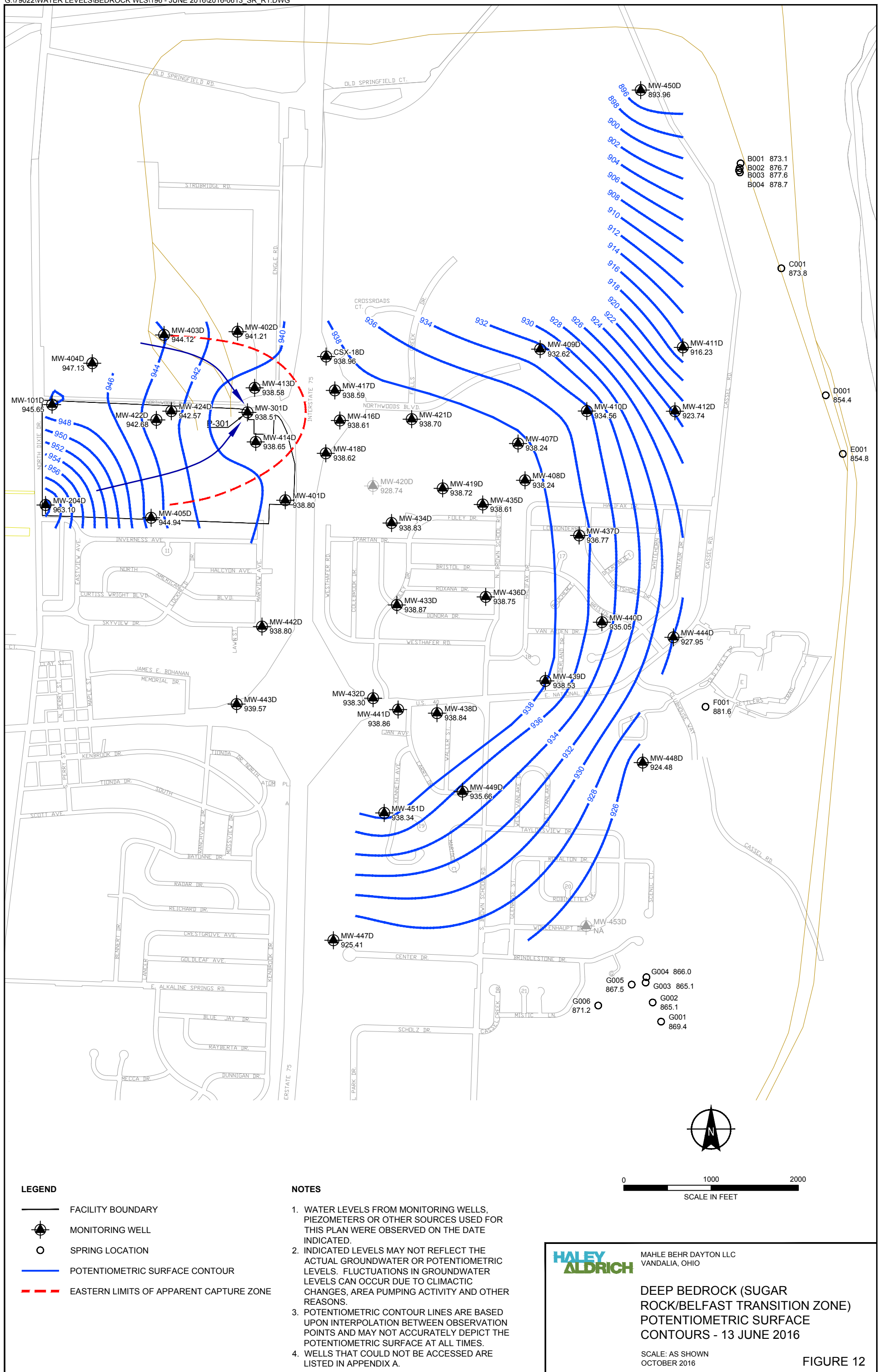
**POTENTIOMETRIC SURFACE  
CONTOURS - 12 JULY 2016  
TOP OF ROCK ZONE**

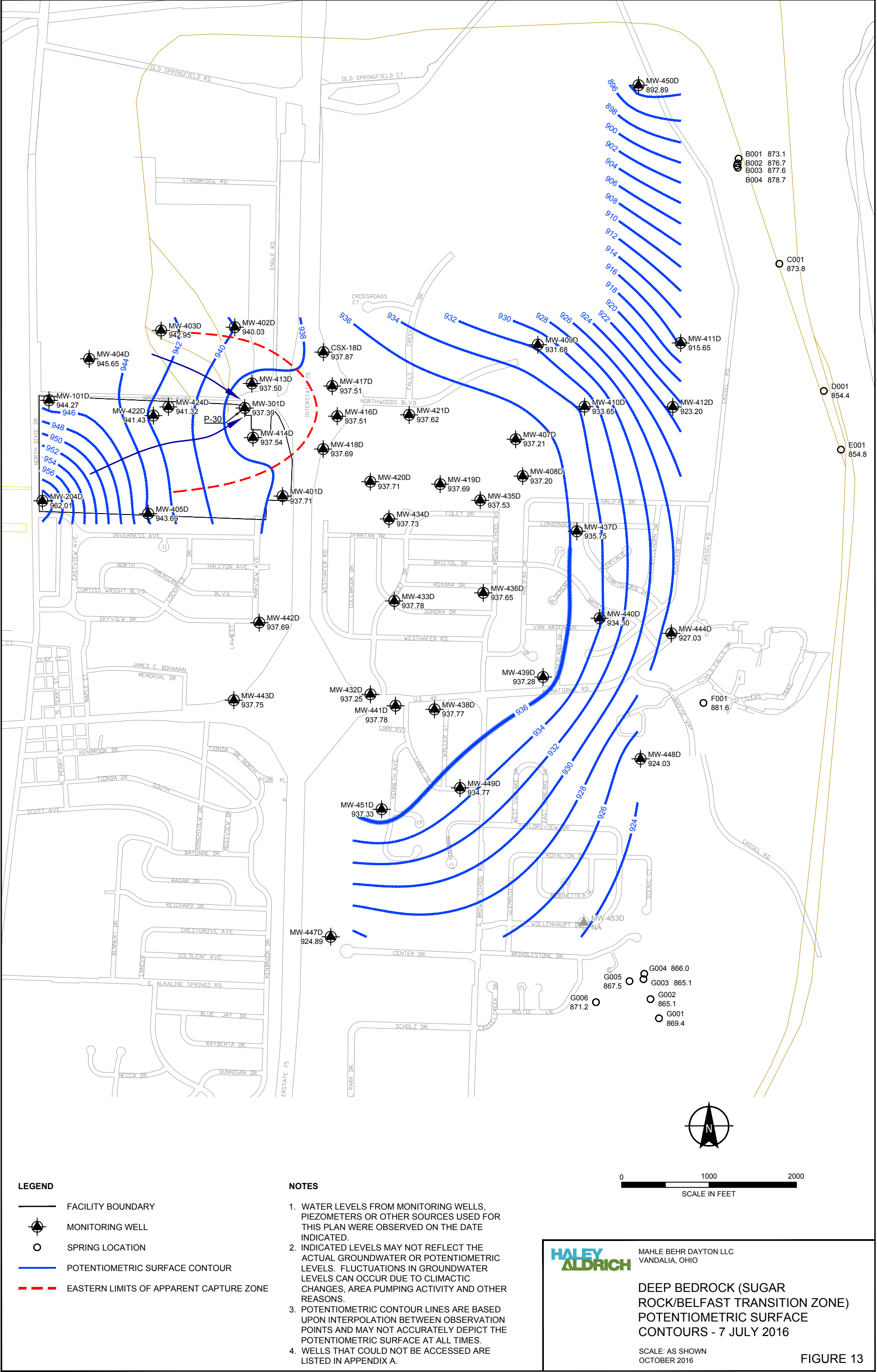
SCALE: AS SHOWN  
OCTOBER 2016



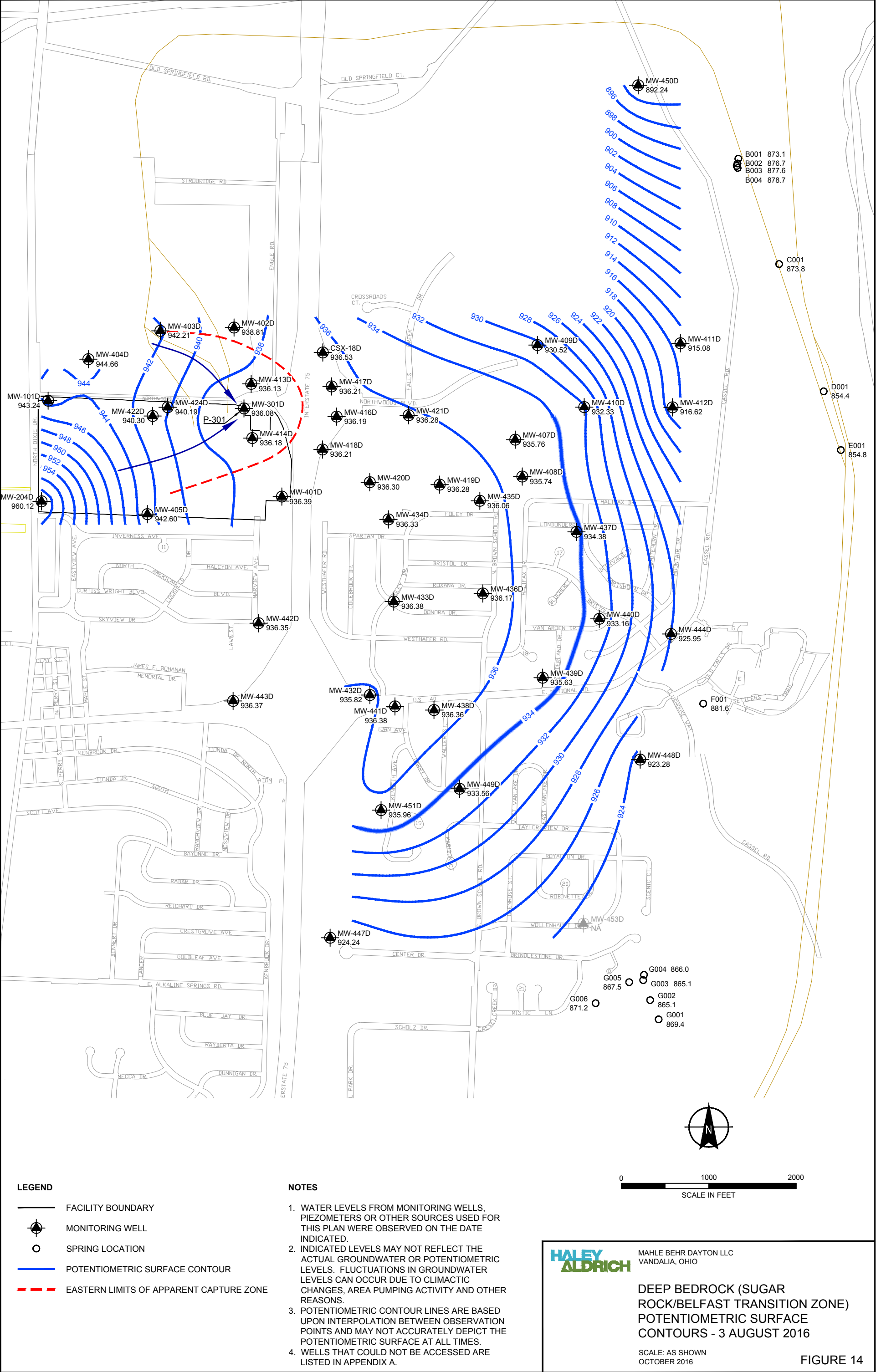
















**Attachment A**  
**Water Level Measurements**

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**BEDROCK MONITORING WELLS**  
**APRIL 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	4/1/2016	10:50	20.96	964.96	944.00	
MW-101D	SR	4/1/2016	12:20	38.41	988.15	949.74	
MW-204D	SR	4/1/2016	12:16	28.95	994.26	965.31	
MW-301D	SR	4/1/2016	11:35	26.85	970.44	943.59	
MW-401D	SR	4/1/2016	11:40	30.75	974.57	943.82	
MW-402D	SR	4/1/2016	11:45	20.43	966.36	945.93	
MW-403D	SR	4/1/2016	11:50	29.07	977.36	948.29	
MW-404D	SR	4/1/2016	12:13	37.72	988.83	951.11	
MW-405D	SR	4/1/2016	11:55	33.36	982.45	949.09	
MW-407D	SR	4/1/2016	14:30	13.05	956.24	943.19	
MW-408D	SR	4/1/2016	14:40	13.86	957.07	943.21	
MW-409D	SR	4/1/2016	15:05	5.93	942.49	936.56	
MW-410D	SR	4/1/2016	14:52	8.84	947.63	938.79	
MW-411D	SR	4/1/2016	13:48	24.85	943.43	918.58	
MW-412D	SR	4/1/2016	13:53	23.11	949.64	926.53	
MW-413D	SR	4/1/2016	11:15	26.52	970.13	943.61	
MW-414D	SR	4/1/2016	11:25	28.20	971.91	943.71	
MW-416D	SR	4/1/2016	10:40	22.22	965.84	943.62	
MW-417D	SR	4/1/2016	11:00	21.30	964.96	943.66	
MW-418D	SR	4/1/2016	10:30	21.40	965.06	943.66	
MW-419D	SR	4/1/2016	14:19	23.75	967.40	943.65	
MW-419M	MB	4/1/2016	14:17	23.87	967.50	943.63	
MW-420D	SR	4/1/2016	14:15	21.61	965.26	943.65	
MW-420M	MB	4/1/2016	14:13	21.21	964.85	943.64	
MW-421D	SR	4/1/2016	14:23	14.86	958.50	943.64	
MW-422D	SR	4/1/2016	12:00	33.90	980.98	947.08	
MW-424D	SR	4/1/2016	12:05	32.75	979.74	946.99	
MW-432D	SR	4/1/2016	12:42	31.40	974.50	943.10	
MW-432M	MB	4/1/2016	12:45	17.92	974.90	956.98	
MW-433D	SR	4/1/2016	13:23	26.68	970.43	943.75	
MW-434D	SR	4/1/2016	13:26	21.65	965.33	943.68	
MW-435D	SR	4/1/2016	13:29	12.38	955.91	943.53	
MW-436D	SR	4/1/2016	13:19	18.64	962.37	943.73	
MW-437D	SR	4/1/2016	13:33	7.04	948.38	941.34	
MW-438D	SR	4/1/2016	12:55	28.90	972.59	943.69	
MW-439D	SR	4/1/2016	13:14	11.67	955.58	943.91	
MW-440D	SR	4/1/2016	13:16		936.70		flowing artesian
MW-441D	SR	4/1/2016	12:48	30.78	974.38	943.60	
MW-442D	SR	4/1/2016	12:30	32.00	975.68	943.68	
MW-443D	SR	4/1/2016	14:05	36.06	979.72	943.66	
MW-444D	SR	4/1/2016	13:55	3.07	934.18	931.11	
MW-447D	SR	4/1/2016	13:03	38.04	965.84	927.80	
MW-448D	SR	4/1/2016	13:59	8.40	935.38	926.98	
MW-449D	SR	4/1/2016	13:00	30.68	970.44	939.76	
MW-450D	SR	4/1/2016	13:38	13.00	910.51	897.51	
MW-451D	SR	4/1/2016	12:53	24.27	967.32	943.05	
MW-453D	SR	4/1/2016	13:08		923.25		flowing artesian

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**TOP OF ROCK MONITORING WELLS**  
**MAY 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-22	TOR	5/3/2016	16:07	6.17	967.35	961.18	
MW-101S	TOR	5/3/2016	14:30	5.34	988.04	982.70	
MW-204S	TOR	5/3/2016	14:52	11.20	993.94	982.74	
MW-301S	TOR	5/3/2016	12:52	3.36	971.03	967.67	
MW-401S	TOR	5/3/2016	13:50	12.59	974.73	962.14	
MW-402S	TOR	5/3/2016	13:56	6.40	966.62	960.22	
MW-403S	TOR	5/3/2016	14:00	5.45	976.61	971.16	
MW-404S	TOR	5/3/2016	14:17	6.15	989.50	983.35	
MW-405S	TOR	5/3/2016	14:59	5.30	982.47	977.17	
MW-407S	TOR	5/3/2016	13:42	1.36	952.99	951.63	
MW-412S	TOR	5/3/2016	13:25	9.63	949.79	940.16	
MW-415S	TOR	5/3/2016	14:10	7.05	976.78	969.73	
MW-422S	TOR	5/3/2016	15:15	9.11	981.27	972.16	
MW-423S	TOR	5/3/2016	15:22	26.80	978.96	952.16	
MW-424S	TOR	5/3/2016	15:32	20.01	980.06	960.05	
MW-425S	TOR	5/3/2016	14:15	6.70	976.09	969.39	
MW-426S	TOR	5/3/2016	15:40	1.86	967.24	965.38	
MW-427S	TOR	5/3/2016	0:00		974.54		no access
MW-428S	TOR	5/3/2016	14:45	9.50	985.43	975.93	
MW-429S	TOR	5/3/2016	14:36	6.61	985.08	978.47	
MW-430S	TOR	5/3/2016	15:05	8.59	984.76	976.17	
MW-431S	TOR	5/3/2016	14:40	6.65	982.46	975.81	
MW-445S	TOR	5/3/2016	16:05	17.48	976.07	958.59	
MW-446SR	TOR	5/3/2016	14:05	7.02	972.04	965.02	
MW-452S	TOR	5/3/2016	16:00	10.95	989.13	978.18	
MW-454S	TOR	5/3/2016	15:50	4.75	969.38	964.63	
MW-455S	TOR	5/3/2016	15:54	5.80	976.65	970.85	

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**BEDROCK MONITORING WELLS**  
**MAY 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	5/25/2016	9:45	24.14	964.96	940.82	
MW-101D	SR	5/25/2016	14:45	40.66	988.15	947.49	
MW-204D	SR	5/25/2016	14:40	30.77	994.26	963.49	
MW-301D	SR	5/25/2016	10:04	30.03	970.44	940.41	
MW-401D	SR	5/25/2016	14:12	33.94	974.57	940.63	
MW-402D	SR	5/25/2016	12:56	23.28	966.36	943.08	
MW-403D	SR	5/25/2016	12:45	31.11	977.36	946.25	
MW-404D	SR	5/25/2016	0:00		988.83		no access, gate locked
MW-405D	SR	5/25/2016	14:27	35.45	982.45	947.00	
MW-407D	SR	5/25/2016	13:04	16.29	956.24	939.95	
MW-408D	SR	5/25/2016	13:10	17.11	957.07	939.96	
MW-409D	SR	5/25/2016	13:44	8.31	942.49	934.18	
MW-410D	SR	5/25/2016	13:18	11.54	947.63	936.09	
MW-411D	SR	5/25/2016	13:31	25.90	943.43	917.53	
MW-412D	SR	5/25/2016	13:24	24.81	949.64	924.83	
MW-413D	SR	5/25/2016	9:56	29.66	970.13	940.47	
MW-414D	SR	5/25/2016	9:59	31.36	971.91	940.55	
MW-416D	SR	5/25/2016	9:41	25.39	965.84	940.45	
MW-417D	SR	5/25/2016	9:51	24.47	964.96	940.49	
MW-418D	SR	5/25/2016	9:36	24.57	965.06	940.49	
MW-419D	SR	5/25/2016	14:00	26.94	967.40	940.46	
MW-419M	MB	5/25/2016	13:58	26.96	967.50	940.54	
MW-420D	SR	5/25/2016	14:03	24.79	965.26	940.47	
MW-420M	MB	5/25/2016	14:05	24.12	964.85	940.73	
MW-421D	SR	5/25/2016	14:07	18.01	958.50	940.49	
MW-422D	SR	5/25/2016	14:29	36.41	980.98	944.57	
MW-424D	SR	5/25/2016	14:36	35.30	979.74	944.44	
MW-432D	SR	5/25/2016	10:11	34.49	974.50	940.01	
MW-432M	MB	5/25/2016	10:13	19.20	974.90	955.70	
MW-433D	SR	5/25/2016	10:21	29.82	970.43	940.61	
MW-434D	SR	5/25/2016	10:26	24.78	965.33	940.55	
MW-435D	SR	5/25/2016	10:30	15.57	955.91	940.34	
MW-436D	SR	5/25/2016	10:33	21.90	962.37	940.47	
MW-437D	SR	5/25/2016	10:51	10.01	948.38	938.37	
MW-438D	SR	5/25/2016	12:05	32.06	972.59	940.53	
MW-439D	SR	5/25/2016	10:42	15.45	955.58	940.13	
MW-440D	SR	5/25/2016	10:47	0.16	936.70	936.54	
MW-441D	SR	5/25/2016	12:00	33.85	974.38	940.53	
MW-442D	SR	5/25/2016	12:28	35.16	975.68	940.52	
MW-443D	SR	5/25/2016	12:12	39.15	979.72	940.57	
MW-444D	SR	5/25/2016	11:18	4.82	934.18	929.36	
MW-447D	SR	5/25/2016	11:43	39.57	965.84	926.27	
MW-448D	SR	5/25/2016	11:30	9.94	935.38	925.44	
MW-449D	SR	5/25/2016	11:49	33.32	970.44	937.12	
MW-450D	SR	5/25/2016	11:04	16.75	910.51	893.76	
MW-451D	SR	5/25/2016	11:55	27.31	967.32	940.01	
MW-453D	SR	5/25/2016	0:00		923.25		artesian

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**BEDROCK MONITORING WELLS**  
**JUNE 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	6/13/2016	11:34	26.00	964.96	938.96	
MW-101D	SR	6/13/2016	14:52	42.50	988.15	945.65	
MW-204D	SR	6/13/2016	14:47	31.16	994.26	963.10	
MW-301D	SR	6/13/2016	11:00	31.93	970.44	938.51	
MW-401D	SR	6/13/2016	12:00	35.77	974.57	938.80	
MW-402D	SR	6/13/2016	13:55	25.15	966.36	941.21	
MW-403D	SR	6/13/2016	14:10	33.24	977.36	944.12	
MW-404D	SR	6/13/2016	14:40	41.70	988.83	947.13	
MW-405D	SR	6/13/2016	14:22	37.51	982.45	944.94	
MW-407D	SR	6/13/2016	13:00	18.00	956.24	938.24	
MW-408D	SR	6/13/2016	13:10	18.83	957.07	938.24	
MW-409D	SR	6/13/2016	13:31	9.87	942.49	932.62	
MW-410D	SR	6/13/2016	13:18	13.07	947.63	934.56	
MW-411D	SR	6/13/2016	16:30	27.20	943.43	916.23	
MW-412D	SR	6/13/2016	16:40	25.90	949.64	923.74	
MW-413D	SR	6/13/2016	11:20	31.55	970.13	938.58	
MW-414D	SR	6/13/2016	11:10	33.26	971.91	938.65	
MW-416D	SR	6/13/2016	11:27	27.23	965.84	938.61	
MW-417D	SR	6/13/2016	11:40	26.37	964.96	938.59	
MW-418D	SR	6/13/2016	11:50	26.44	965.06	938.62	
MW-419D	SR	6/13/2016	12:30	28.68	967.40	938.72	
MW-419M	MB	6/13/2016	12:35	26.81	967.50	940.69	
MW-420D	SR	6/13/2016	12:15	36.52	965.26	928.74	
MW-420M	MB	6/13/2016	12:20	36.19	964.85	928.66	
MW-421D	SR	6/13/2016	12:40	19.80	958.50	938.70	
MW-422D	SR	6/13/2016	14:17	38.30	980.98	942.68	
MW-424D	SR	6/13/2016	14:30	37.17	979.74	942.57	
MW-432D	SR	6/13/2016	15:07	36.20	974.50	938.30	
MW-432M	MB	6/13/2016	15:05	20.00	974.90	954.90	
MW-433D	SR	6/13/2016	15:56	31.56	970.43	938.87	
MW-434D	SR	6/13/2016	16:00	26.50	965.33	938.83	
MW-435D	SR	6/13/2016	16:06	17.30	955.91	938.61	
MW-436D	SR	6/13/2016	15:51	23.62	962.37	938.75	
MW-437D	SR	6/13/2016	15:46	11.61	948.38	936.77	
MW-438D	SR	6/13/2016	15:16	33.75	972.59	938.84	
MW-439D	SR	6/13/2016	15:35	17.05	955.58	938.53	
MW-440D	SR	6/13/2016	15:40	1.65	936.70	935.05	
MW-441D	SR	6/13/2016	15:10	35.52	974.38	938.86	
MW-442D	SR	6/13/2016	14:59	36.88	975.68	938.80	
MW-443D	SR	6/13/2016	16:53	40.15	979.72	939.57	
MW-444D	SR	6/13/2016	16:11	6.23	934.18	927.95	
MW-447D	SR	6/13/2016	15:24	40.43	965.84	925.41	
MW-448D	SR	6/13/2016	16:47	10.90	935.38	924.48	
MW-449D	SR	6/13/2016	15:18	34.78	970.44	935.66	
MW-450D	SR	6/13/2016	16:17	16.55	910.51	893.96	
MW-451D	SR	6/13/2016	15:14	28.98	967.32	938.34	
MW-453D	SR	6/13/2016	15:30		923.25		artesian

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**OVERBURDEN MONITORING WELLS**  
**JUNE 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
HA-1	S2	6/23/2016	12:33	10.00	982.24	972.24	
HA-2	S2	6/23/2016	12:31	8.19	982.70	974.51	
HA-3	S2	6/23/2016	12:27	10.26	982.61	972.35	
HA-4	S1	6/23/2016	12:35	3.72	981.14	977.42	
HA-5	WT	6/23/2016	12:29	5.61	982.94	977.33	
IF-2	WT/S1	6/23/2016	11:32	2.88	978.64	975.76	
IF-3	WT/S1	6/23/2016	11:35	2.13	978.61	976.48	
MW-130	S1	6/23/2016	13:16	4.97	986.02	981.05	
MW-131	S1	6/23/2016	13:46	5.22	985.72	980.50	
MW-132	WT/S1	6/23/2016	13:39	4.35	984.07	979.72	
MW-133	S1	6/23/2016	13:31	5.00	983.13	978.13	
MW-134	WT/S1	6/23/2016	13:26	2.54	979.78	977.24	
MW-135	WT/S1	6/23/2016	14:19	3.70	984.86	981.16	
MW-136	WT/S1	6/23/2016	0:00		985.67		Covered
MW-137	S2	6/23/2016	12:16	8.51	982.24	973.73	
MW-138	S1	6/23/2016	12:18	2.99	982.24	979.25	
MW-501	S2	6/23/2016	12:32	5.92	988.73	982.81	
MW-502	S1/S2	6/23/2016	12:27	5.60	990.20	984.60	
MW-503	S1	6/23/2016	11:42	7.92	994.49	986.57	
MW-504R	S1	6/23/2016	14:15	2.82	984.42	981.60	
MW-505	S1/S2	6/23/2016	14:01	6.20	989.28	983.08	
MW-506	S1	6/23/2016	15:19	4.05	988.96	984.91	
MW-507	S1	6/23/2016	14:58	5.85	988.96	983.11	
MW-508	S2	6/23/2016	12:05	11.92	989.07	977.15	
MW-509R	S2	6/23/2016	12:09	8.61	985.34	976.73	
MW-510R	S2	6/23/2016	11:44	7.07	981.51	974.44	
MW-511	S2	6/23/2016	11:07	6.42	980.06	973.64	
MW-512	WT	6/23/2016	15:51	4.28	979.15	974.87	
MW-513	S2	6/23/2016	10:50	11.11	974.84	963.73	
MW-514	S2	6/23/2016	10:21	0.79	968.31	967.52	
MW-515	S2	6/23/2016	10:11	4.90	970.44	965.54	
MW-516	S2	6/23/2016	15:50	7.48	978.83	971.35	
MW-601	WT	6/23/2016	14:21	4.47	979.47	975.00	
MW-602	WT	6/23/2016	12:22	4.55	981.94	977.39	
MW-603	WT	6/23/2016	11:59	6.09	984.42	978.33	
MW-604	S1	6/23/2016	12:19	3.37	981.77	978.40	
MW-605	S2	6/23/2016	14:08	7.05	978.62	971.57	
MW-606	S1	6/23/2016	12:05	4.74	982.87	978.13	
MW-607	WT/S1	6/23/2016	14:28	4.43	979.87	975.44	
MW-700	S1	6/23/2016	14:07	6.36	988.77	982.41	
MW-701	S1	6/23/2016	15:29	6.07	988.92	982.85	
MW-702	S1	6/23/2016	15:17	1.89	989.24	987.35	
MW-703R	S1	6/23/2016	15:13	3.26	988.84	985.58	
MW-705	S1	6/23/2016	12:08	12.00	989.01	977.01	
MW-706	WT	6/23/2016	12:02	6.18	987.67	981.49	
MW-707	S1	6/23/2016	14:55	5.92	989.06	983.14	
MW-708	S2	6/23/2016	15:05	8.85	985.24	976.39	
MW-709	S1	6/23/2016	14:50	7.45	989.10	981.65	
MW-710	WT/S1	6/23/2016	14:21	4.35	985.15	980.80	
MW-711	S1	6/23/2016	15:12	8.33	989.16	980.83	
MW-712	WT/S1	6/23/2016	11:41	2.17	982.31	980.14	
MW-715	S1	6/23/2016	13:58	6.88	982.30	975.42	
MW-716	S2	6/23/2016	13:49	9.83	982.31	972.48	
MW-717	S2	6/23/2016	11:00	6.73	979.82	973.09	
MW-718	WT/S1	6/23/2016	11:28	4.27	980.27	976.00	
MW-719	S2	6/23/2016	10:50	6.73	979.01	972.28	
MW-720	S1	6/23/2016	10:36	7.14	979.29	972.15	
MW-721	S2	6/23/2016	12:10	10.46	984.81	974.35	
MW-722R	WT	6/23/2016	11:52	3.64	987.55	983.91	

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**OVERBURDEN MONITORING WELLS**  
**JUNE 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
MW-723	WT	6/23/2016	0:00		984.75		Abandoned
MW-724	WT/S1	6/23/2016	10:37	6.70	979.15	972.45	
MW-725	S2	6/23/2016	10:42	6.81	978.46	971.65	
MW-726	WT/S1	6/23/2016	10:40	3.94	978.70	974.76	
MW-727	S2	6/23/2016	10:44	6.20	977.84	971.64	
MW-728	WT/S1	6/23/2016	10:43	3.21	978.07	974.86	
MW-729	WT/S1	6/23/2016	10:40	3.89	977.20	973.31	
MW-730	S1	6/23/2016	11:25	4.02	982.08	978.06	
MW-731	S2	6/23/2016	10:45	5.62	977.19	971.57	
MW-732	S1	6/23/2016	14:14	3.83	978.89	975.06	
MW-733	S2	6/23/2016	10:30	7.49	978.98	971.49	
MW-734	WT/S1	6/23/2016	10:32	7.11	979.14	972.03	
MW-735	S2	6/23/2016	15:01	6.75	985.40	978.65	
MW-736	S2	6/23/2016	0:00		979.45		Could not locate
MW-737	S2	6/23/2016	11:22	7.19	978.96	971.77	
MW-738	WT	6/23/2016	11:59	3.15	987.75	984.60	
MW-739	WT	6/23/2016	12:11	3.05	989.05	986.00	
MW-740	S2	6/23/2016	11:11	2.90	973.82	970.92	
MW-741	S2	6/23/2016	10:57	8.79	976.19	967.40	
MW-742	S2	6/23/2016	13:25	9.00	980.10	971.10	
MW-743	S2	6/23/2016	10:46	6.11	976.89	970.78	
MW-744	WT	6/23/2016	12:04	6.21	987.36	981.15	
MW-745	S2	6/23/2016	11:11	7.65	982.49	974.84	
MW-746	S2	6/23/2016	11:54	9.78	987.64	977.86	
MW-747R	S1	6/23/2016	11:50	7.93	988.14	980.21	
MW-748	S1	6/23/2016	11:46	5.02	981.98	976.96	
MW-749	WT	6/23/2016	11:49	1.90	981.94	980.04	
MW-750	WT	6/23/2016	13:18	4.12	985.32	981.20	
MW-753	WT	6/23/2016	13:57	3.05	985.37	982.32	
MW-754	WT	6/23/2016	13:50	4.26	985.85	981.59	
MW-757	WT	6/23/2016	15:15	2.25	988.95	986.70	
MW-758	S2	6/23/2016	11:22	3.53	982.34	978.81	
MW-759	S2	6/23/2016	11:06	5.96	976.87	970.91	
MW-760	WT	6/23/2016	11:51	5.12	984.49	979.37	
MW-764	WT/S1	6/23/2016	11:55	4.32	982.78	978.46	
MW-765	WT	6/23/2016	15:09	3.45	988.96	985.51	
MW-766	WT	6/23/2016	0:00		987.15		Covered
MW-767	WT	6/23/2016	15:27	5.91	988.92	983.01	
MW-768	WT	6/23/2016	0:00		985.64		Covered
MW-770	S1/S2	6/23/2016	11:48	8.67	992.62	983.95	
MW-771	WT	6/23/2016	11:47	4.61	992.54	987.93	
MW-772R	WT	6/23/2016	14:56	6.82			
MW-773	S1	6/23/2016	12:23	4.37	989.24	984.87	
MW-774	WT	6/23/2016	12:24	2.75	989.06	986.31	
MW-775	WT	6/23/2016	11:04	4.00	976.91	972.91	
MW-776	WT/S1	6/23/2016	11:12	3.29	974.01	970.72	
MW-777	S1	6/23/2016	13:21	6.95	985.65	978.70	
MW-778	S2	6/23/2016	11:54	6.52	982.78	976.26	
MW-779	S2	6/23/2016	14:19	8.95	979.40	970.45	
MW-780R	WT/S1	6/23/2016	15:03	4.55	984.63	980.08	
MW-781	WT	6/23/2016	13:42	4.65	982.06	977.41	
MW-782	WT/S1	6/23/2016	11:05	4.45	980.19	975.74	
MW-784	WT	6/23/2016	10:55	4.06	980.09	976.03	
MW-786	S2	6/23/2016	14:15	8.75	979.35	970.60	
MW-787	WT	6/23/2016	13:50	7.51	982.12	974.61	
MW-788	WT	6/23/2016	11:56	5.49	986.90	981.41	
MW-789	WT/S1	6/23/2016	13:23	3.65	982.43	978.78	
MW-790	WT	6/23/2016	15:05	3.52	988.92	985.40	
MW-792	S2	6/23/2016	15:07	11.13	989.02	977.89	

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**OVERBURDEN MONITORING WELLS**  
**JUNE 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
MW-793	WT/S1	6/23/2016	13:53	7.65	982.03	974.38	
MW-794	WT/S1	6/23/2016	13:44	5.53	982.07	976.54	
MW-795	WT	6/23/2016	0:00		982.12		Has product
MW-796	WT/S1	6/23/2016	13:20	4.76	980.25	975.49	
MW-797	S1	6/23/2016	0:00		985.68		Abandoned
MW-798	S2	6/23/2016	0:00		982.19		Has product
MW-799	S2	6/23/2016	13:40	8.95	982.09	973.14	
MW-800	S2	6/23/2016	11:08	8.13	978.91	970.78	
MW-801	S1	6/23/2016	0:00		987.12		Covered
MW-802	WT	6/23/2016	15:03	11.40	988.71	977.31	
MW-804R	S1	6/23/2016	15:00	9.87	988.77	978.90	
MW-805	WT	6/23/2016	13:48	4.41	985.92	981.51	
MW-806	WT	6/23/2016	13:31	8.02	982.15	974.13	
MW-807	S2	6/23/2016	13:34		982.08		Buried
MW-808	S2	6/23/2016	13:46	9.40	982.20	972.80	
MW-809	S1/S2	6/23/2016	13:37	8.03	982.16	974.13	
MW-810	WT	6/23/2016	13:28	7.90	980.40	972.50	
MW-811	WT	6/23/2016	11:36	4.13	982.88	978.75	
MW-812	S2	6/23/2016	10:17	5.93	969.95	964.02	
MW-813	S2	6/23/2016	10:14	6.65	975.43	968.78	
MW-814	WT/S1	6/23/2016	15:43	6.85	976.17	969.32	
MW-815	WT/S1	6/23/2016	15:45		979.30		No Access
N001	WT	6/23/2016	0:00		985.43		Covered
N002	WT	6/23/2016	15:06	5.30	985.20	979.90	
N003	WT	6/23/2016	14:09	3.08	985.28	982.20	
N1	WT	6/23/2016	15:14	5.50	989.43	983.93	
N10	WT	6/23/2016	0:00		982.92		Covered
N11	WT	6/23/2016	12:50	2.49	981.63	979.14	
N12	WT	6/23/2016	13:01	9.13	984.82	975.69	
N13	WT	6/23/2016	12:45	4.13	982.21	978.08	
N15	WT	6/23/2016	12:55	4.38	982.47	978.09	
N16	WT	6/23/2016	16:00	3.00	982.04	979.04	
N17	WT	6/23/2016	15:55	3.75	982.23	978.48	
N2	WT	6/23/2016	0:00		989.37		Covered
N23	WT	6/23/2016	12:58	6.25	980.57	974.32	
N25	WT	6/23/2016	13:37	4.30	985.33	981.03	
N26	WT	6/23/2016	13:32	4.65	983.29	978.64	
N57	WT	6/23/2016	12:59	7.60	982.50	974.90	
N62 (E2)	WT	6/23/2016	12:40	4.75			
N63	WT	6/23/2016	10:38	7.30	979.19	971.89	
N64	WT	6/23/2016	10:34	7.30	978.34	971.04	
N7	WT	6/23/2016	0:00		985.19		Covered
N9	WT	6/23/2016	15:00	7.00	985.38	978.38	
PZ-1	WT	6/23/2016	12:39	3.60	978.64	975.04	
PZ-10	WT	6/23/2016	12:02	6.25	983.23	976.98	
PZ-11	WT	6/23/2016	0:00		983.34		Covered
PZ-12	WT	6/23/2016	14:50	3.00	982.95	979.95	
PZ-13	WT	6/23/2016	14:52	3.61	983.61	980.00	
PZ-14	WT	6/23/2016	0:00		984.21		Could not locate
PZ-15	WT	6/23/2016	14:32	5.10	985.51	980.41	
PZ-16R	WT	6/23/2016	14:29	4.83	985.16	980.33	
PZ-17	WT	6/23/2016	14:54	2.80	983.49	980.69	
PZ-18	WT	6/23/2016	14:18	3.98	985.28	981.30	
PZ-19	WT	6/23/2016	12:01	6.15	983.58	977.43	
PZ-2	WT	6/23/2016	0:00		978.12		Covered
PZ-20	WT	6/23/2016	11:57	5.41	982.28	976.87	
PZ-21	WT	6/23/2016	15:12	2.57	988.88	986.31	
PZ-22R	WT	6/23/2016	14:52	5.82	988.78	982.96	
PZ-23	WT	6/23/2016	15:10	4.06	989.04	984.98	



ATTACHMENT A  
MONTHLY GROUNDWATER ELEVATION DATA  
OVERBURDEN MONITORING WELLS  
JUNE 2016  
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
PZ-24	WT	6/23/2016	12:19	2.64	988.82	986.18	
PZ-25	WT	6/23/2016	15:36	2.07	988.71	986.64	
PZ-26	WT	6/23/2016	0:00		989.05		Has product
PZ-28	WT	6/23/2016	15:34	3.08	989.02	985.94	
PZ-29R	WT	6/23/2016	14:04	3.55	988.22	984.67	
PZ-3	WT	6/23/2016	13:30	1.33	981.55	980.22	
PZ-30	WT	6/23/2016	0:00		985.25		Covered
PZ-31	WT	6/23/2016	12:13	3.57	988.98	985.41	
PZ-4	WT	6/23/2016	12:36	2.30	981.32	979.02	
PZ-5	WT	6/23/2016	14:06	4.02	979.59	975.57	
PZ-6	WT	6/23/2016	12:23	5.47	981.83	976.36	
PZ-7	WT	6/23/2016	12:24	4.45	982.66	978.21	
PZ-8	WT	6/23/2016	12:28	5.55	983.11	977.56	
PZ-9	WT	6/23/2016	12:20	4.88	982.63	977.75	
VAW-115R	WT/S1	6/23/2016	13:55	4.44	985.24	980.80	
VBW-111	WT/S1	6/23/2016	13:34	4.65	984.26	979.61	
VBW-112	S1	6/23/2016	13:35	7.54	985.44	977.90	
VBW-113	WT	6/23/2016	14:23	4.85	985.87	981.02	
VCW-110	WT/S1	6/23/2016	0:00		985.84		Covered
VDW-108	S2	6/23/2016	11:58	10.96	983.76	972.80	
VEW-105	WT	6/23/2016	0:00		988.08		Covered
VEW-106	WT	6/23/2016	11:58	3.87	987.79	983.92	
VEW-114R	WT	6/23/2016	12:15	3.88	988.86	984.98	
VFW-104	WT/S2	6/23/2016	15:38	3.64	978.74	975.10	
VPW-101	S1	6/23/2016	12:34	4.00	986.81	982.81	
VPW-102	S2	6/23/2016	10:19	3.50	966.75	963.25	
VPW-103	WT/S1	6/23/2016	11:19	4.17	982.05	977.88	

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**BEDROCK MONITORING WELLS**  
**JULY 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	7/7/2016	10:15	27.09	964.96	937.87	
MW-101D	SR	7/7/2016	13:39	43.88	988.15	944.27	
MW-204D	SR	7/7/2016	13:34	32.25	994.26	962.01	
MW-301D	SR	7/7/2016	9:52	33.05	970.44	937.39	
MW-401D	SR	7/7/2016	9:35	36.86	974.57	937.71	
MW-402D	SR	7/7/2016	14:37	26.33	966.36	940.03	
MW-403D	SR	7/7/2016	13:57	34.41	977.36	942.95	
MW-404D	SR	7/7/2016	13:50	43.18	988.83	945.65	
MW-405D	SR	7/7/2016	14:12	38.76	982.45	943.69	
MW-407D	SR	7/7/2016	11:10	19.03	956.24	937.21	
MW-408D	SR	7/7/2016	11:20	19.87	957.07	937.20	
MW-409D	SR	7/7/2016	11:31	10.81	942.49	931.68	
MW-410D	SR	7/7/2016	11:26	13.98	947.63	933.65	
MW-411D	SR	7/7/2016	11:59	27.78	943.43	915.65	
MW-412D	SR	7/7/2016	12:12	26.44	949.64	923.20	
MW-413D	SR	7/7/2016	10:00	32.63	970.13	937.50	
MW-414D	SR	7/7/2016	9:45	34.37	971.91	937.54	
MW-416D	SR	7/7/2016	10:08	28.33	965.84	937.51	
MW-417D	SR	7/7/2016	10:23	27.45	964.96	937.51	
MW-418D	SR	7/7/2016	10:32	27.37	965.06	937.69	
MW-419D	SR	7/7/2016	10:50	29.71	967.40	937.69	
MW-419M	MB	7/7/2016	10:55	29.87	967.50	937.63	
MW-420D	SR	7/7/2016	10:45	27.55	965.26	937.71	
MW-420M	MB	7/7/2016	10:40	27.18	964.85	937.67	
MW-421D	SR	7/7/2016	11:00	20.88	958.50	937.62	
MW-422D	SR	7/7/2016	14:18	39.55	980.98	941.43	
MW-424D	SR	7/7/2016	14:25	38.42	979.74	941.32	
MW-432D	SR	7/7/2016	13:22	37.25	974.50	937.25	
MW-432M	MB	7/7/2016	13:21	20.79	974.90	954.11	
MW-433D	SR	7/7/2016	13:16	32.65	970.43	937.78	
MW-434D	SR	7/7/2016	13:12	27.60	965.33	937.73	
MW-435D	SR	7/7/2016	13:04	18.38	955.91	937.53	
MW-436D	SR	7/7/2016	13:08	24.72	962.37	937.65	
MW-437D	SR	7/7/2016	12:59	12.63	948.38	935.75	
MW-438D	SR	7/7/2016	12:36	34.82	972.59	937.77	
MW-439D	SR	7/7/2016	12:51	18.30	955.58	937.28	
MW-440D	SR	7/7/2016	12:56	2.40	936.70	934.30	
MW-441D	SR	7/7/2016	12:28	36.60	974.38	937.78	
MW-442D	SR	7/7/2016	13:30	37.99	975.68	937.69	
MW-443D	SR	7/7/2016	11:45	41.97	979.72	937.75	
MW-444D	SR	7/7/2016	12:22	7.15	934.18	927.03	
MW-447D	SR	7/7/2016	12:43	40.95	965.84	924.89	
MW-448D	SR	7/7/2016	12:24	11.35	935.38	924.03	
MW-449D	SR	7/7/2016	12:39	35.67	970.44	934.77	
MW-450D	SR	7/7/2016	11:52	17.62	910.51	892.89	
MW-451D	SR	7/7/2016	12:32	29.99	967.32	937.33	
MW-453D	SR	7/7/2016	12:47		923.25		flowing artesian

ATTACHMENT A  
MONTHLY GROUNDWATER ELEVATION DATA  
TOP OF ROCK MONITORING WELLS  
JULY 2016  
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-22	TOR	7/12/2016	8:17	8.18	967.35	959.17	
MW-101S	TOR	7/12/2016	12:00	6.11	988.04	981.93	
MW-204S	TOR	7/12/2016	11:52	8.20	993.94	985.74	
MW-301S	TOR	7/12/2016	9:13	5.07	971.03	965.96	
MW-401S	TOR	7/12/2016	8:47	14.85	974.73	959.88	
MW-402S	TOR	7/12/2016	8:30	9.67	966.62	956.95	
MW-403S	TOR	7/12/2016	9:51	8.20	976.61	968.41	
MW-404S	TOR	7/12/2016	11:25	8.53	989.50	980.97	
MW-405S	TOR	7/12/2016	11:15	7.25	982.47	975.22	
MW-407S	TOR	7/12/2016	8:01	7.30	952.99	945.69	
MW-412S	TOR	7/12/2016	13:31	13.51	949.79	936.28	
MW-415S	TOR	7/12/2016	10:01	9.52	976.78	967.26	
MW-422S	TOR	7/12/2016	10:30	11.55	981.27	969.72	
MW-423S	TOR	7/12/2016	10:40	30.73	978.96	948.23	
MW-424S	TOR	7/12/2016	10:49	23.22	980.06	956.84	
MW-425S	TOR	7/12/2016	9:38	9.24	976.09	966.85	
MW-426S	TOR	7/12/2016	9:21	3.49	967.24	963.75	
MW-427S	TOR	7/12/2016	9:45		974.54		covered by truck
MW-428S	TOR	7/12/2016	11:35	11.95	985.43	973.48	
MW-429S	TOR	7/12/2016	11:40	8.67	985.08	976.41	
MW-430S	TOR	7/12/2016	10:21	10.55	984.76	974.21	
MW-431S	TOR	7/12/2016	11:46	8.38	982.46	974.08	
MW-445S	TOR	7/12/2016	9:29	20.61	976.07	955.46	
MW-446SR	TOR	7/12/2016	10:09	8.79	972.04	963.25	
MW-452S	TOR	7/12/2016	11:30	12.62	989.13	976.51	
MW-454S	TOR	7/12/2016	9:05	6.71	969.38	962.67	
MW-455S	TOR	7/12/2016	8:54	8.12	976.65	968.53	

ATTACHMENT A  
MONTHLY GROUNDWATER ELEVATION DATA  
BEDROCK MONITORING WELLS  
AUGUST 2016  
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	8/3/2016	9:47	28.43	964.96	936.53	
MW-101D	SR	8/3/2016	13:44	44.91	988.15	943.24	
MW-204D	SR	8/3/2016	13:38	34.14	994.26	960.12	
MW-301D	SR	8/3/2016	9:30	34.36	970.44	936.08	
MW-401D	SR	8/3/2016	14:40	38.18	974.57	936.39	
MW-402D	SR	8/3/2016	14:32	27.55	966.36	938.81	
MW-403D	SR	8/3/2016	14:22	35.15	977.36	942.21	
MW-404D	SR	8/3/2016	13:52	44.17	988.83	944.66	
MW-405D	SR	8/3/2016	14:00	39.85	982.45	942.60	
MW-407D	SR	8/3/2016	10:35	20.48	956.24	935.76	
MW-408D	SR	8/3/2016	10:43	21.33	957.07	935.74	
MW-409D	SR	8/3/2016	11:02	11.97	942.49	930.52	
MW-410D	SR	8/3/2016	10:53	15.30	947.63	932.33	
MW-411D	SR	8/3/2016	11:34	28.35	943.43	915.08	
MW-412D	SR	8/3/2016	11:42	33.02	949.64	916.62	
MW-413D	SR	8/3/2016	9:40	34.00	970.13	936.13	
MW-414D	SR	8/3/2016	9:37	35.73	971.91	936.18	
MW-416D	SR	8/3/2016	9:43	29.65	965.84	936.19	
MW-417D	SR	8/3/2016	9:50	28.75	964.96	936.21	
MW-418D	SR	8/3/2016	9:54	28.85	965.06	936.21	
MW-419D	SR	8/3/2016	10:12	31.12	967.40	936.28	
MW-419M	MB	8/3/2016	10:16	31.20	967.50	936.30	
MW-420D	SR	8/3/2016	10:00	28.96	965.26	936.30	
MW-420M	MB	8/3/2016	10:05	28.38	964.85	936.47	
MW-421D	SR	8/3/2016	10:21	22.22	958.50	936.28	
MW-422D	SR	8/3/2016	14:07	40.68	980.98	940.30	
MW-424D	SR	8/3/2016	14:15	39.55	979.74	940.19	
MW-432D	SR	8/3/2016	13:15	38.68	974.50	935.82	
MW-432M	MB	8/3/2016	13:18	21.68	974.90	953.22	
MW-433D	SR	8/3/2016	12:24	34.05	970.43	936.38	
MW-434D	SR	8/3/2016	12:29	29.00	965.33	936.33	
MW-435D	SR	8/3/2016	12:36	19.85	955.91	936.06	
MW-436D	SR	8/3/2016	12:17	26.20	962.37	936.17	
MW-437D	SR	8/3/2016	12:10	14.00	948.38	934.38	
MW-438D	SR	8/3/2016	13:09	36.23	972.59	936.36	
MW-439D	SR	8/3/2016	11:58	19.95	955.58	935.63	
MW-440D	SR	8/3/2016	12:04	3.54	936.70	933.16	
MW-441D	SR	8/3/2016	12:43	38.00	974.38	936.38	
MW-442D	SR	8/3/2016	13:31	39.33	975.68	936.35	
MW-443D	SR	8/3/2016	13:24	43.35	979.72	936.37	
MW-444D	SR	8/3/2016	11:45	8.23	934.18	925.95	
MW-447D	SR	8/3/2016	12:59	41.60	965.84	924.24	
MW-448D	SR	8/3/2016	11:50	12.10	935.38	923.28	
MW-449D	SR	8/3/2016	12:53	36.88	970.44	933.56	
MW-450D	SR	8/3/2016	11:17	18.27	910.51	892.24	
MW-451D	SR	8/3/2016	12:49	31.36	967.32	935.96	
MW-453D	SR	8/3/2016	13:04		923.25		flowing artesian

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**OVERBURDEN MONITORING WELLS**  
**AUGUST 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
HA-1	S2	8/19/2016	12:43	10.00	982.24	972.24	
HA-2	S2	8/19/2016	12:37	8.13	982.70	974.57	
HA-3	S2	8/19/2016	12:34	10.35	982.61	972.26	
HA-4	S1	8/19/2016	12:49	3.71	981.14	977.43	
HA-5	WT	8/19/2016	12:36	5.81	982.94	977.13	
IF-2	WT/S1	8/19/2016	10:32	2.28	978.64	976.36	
IF-3	WT/S1	8/19/2016	10:32	2.38	978.61	976.23	
MW-130	S1	8/19/2016	14:26	3.91	986.02	982.11	
MW-131	S1	8/19/2016	14:28	2.87	985.72	982.85	
MW-132	WT/S1	8/19/2016	14:14	3.90	984.07	980.17	
MW-133	S1	8/19/2016	13:56	4.98	983.13	978.15	
MW-134	WT/S1	8/19/2016	14:04	2.57	979.78	977.21	
MW-135	WT/S1	8/19/2016	13:46	2.75	984.86	982.11	
MW-136	WT/S1	8/19/2016	13:13	4.47	985.67	981.20	
MW-137	S2	8/19/2016	12:18	7.43	982.24	974.81	
MW-138	S1	8/19/2016	11:59	3.07	982.24	979.17	
MW-501	S2	8/19/2016	14:46	5.87	988.73	982.86	
MW-502	S1/S2	8/19/2016	11:21	5.08	990.20	985.12	
MW-503	S1	8/19/2016	10:34	7.28	994.49	987.21	
MW-504R	S1	8/19/2016	13:03	2.31	984.42	982.11	
MW-505	S1/S2	8/19/2016	12:32	5.50	989.28	983.78	
MW-506	S1	8/19/2016	11:58	3.24	988.96	985.72	
MW-507	S1	8/19/2016	12:22	4.82	988.96	984.14	
MW-508	S2	8/19/2016	10:46	11.54	989.07	977.53	
MW-509R	S2	8/19/2016	11:54	8.38	985.34	976.96	
MW-510R	S2	8/19/2016	11:08	6.86	981.51	974.65	
MW-511	S2	8/19/2016	10:11	6.28	980.06	973.78	
MW-512	WT	8/19/2016	14:48	4.35	979.15	974.80	
MW-513	S2	8/19/2016	9:30	10.89	974.84	963.95	
MW-514	S2	8/19/2016	9:28	0.73	968.31	967.58	
MW-515	S2	8/19/2016	9:14	4.87	970.44	965.57	
MW-516	S2	8/19/2016	14:44	7.55	978.83	971.28	
MW-601	WT	8/19/2016	15:06	4.60	979.47	974.87	
MW-602	WT	8/19/2016	12:26	4.77	981.94	977.17	
MW-603	WT	8/19/2016	11:47	5.63	984.42	978.79	
MW-604	S1	8/19/2016	12:19	3.00	981.77	978.77	
MW-605	S2	8/19/2016	14:58	7.52	978.62	971.10	
MW-606	S1	8/19/2016	12:23	4.51	982.87	978.36	
MW-607	WT/S1	8/19/2016	14:34	4.35	979.87	975.52	
MW-700	S1	8/19/2016	12:29	5.58	988.77	983.19	
MW-701	S1	8/19/2016	11:56	5.31	988.92	983.61	
MW-702	S1	8/19/2016	11:53	1.80	989.24	987.44	
MW-703R	S1	8/19/2016	11:30	2.23	988.84	986.61	
MW-705	S1	8/19/2016	10:54	12.16	989.01	976.85	
MW-706	WT	8/19/2016	10:43	6.08	987.67	981.59	
MW-707	S1	8/19/2016	12:18	5.70	989.06	983.36	
MW-708	S2	8/19/2016	13:39	8.50	985.24	976.74	
MW-709	S1	8/19/2016	12:15	7.17	989.10	981.93	
MW-710	WT/S1	8/19/2016	13:47	3.21	985.15	981.94	
MW-711	S1	8/19/2016	10:57	7.50	989.16	981.66	
MW-712	WT/S1	8/19/2016	11:01	2.28	982.31	980.03	
MW-715	S1	8/19/2016	13:40	7.35	982.30	974.95	
MW-716	S2	8/19/2016	13:34	9.78	982.31	972.53	
MW-717	S2	8/19/2016	10:10	6.62	979.82	973.20	
MW-718	WT/S1	8/19/2016	10:35	4.25	980.27	976.02	
MW-719	S2	8/19/2016	10:35	6.67	979.01	972.34	
MW-720	S1	8/19/2016	9:42	6.96	979.29	972.33	
MW-721	S2	8/19/2016	11:57	8.20	984.81	976.61	
MW-722R	WT	8/19/2016	10:25	2.08	987.55	985.47	

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**OVERBURDEN MONITORING WELLS**  
**AUGUST 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
MW-723	WT	8/19/2016	0:00		984.75		Abandoned
MW-724	WT/S1	8/19/2016	9:41	6.68	979.15	972.47	
MW-725	S2	8/19/2016	9:55	6.67	978.46	971.79	
MW-726	WT/S1	8/19/2016	9:52	3.54	978.70	975.16	
MW-727	S2	8/19/2016	9:58	6.40	977.84	971.44	
MW-728	WT/S1	8/19/2016	9:57	2.89	978.07	975.18	
MW-729	WT/S1	8/19/2016	10:01	3.52	977.20	973.68	
MW-730	S1	8/19/2016	15:45	4.06	982.08	978.02	
MW-731	S2	8/19/2016	10:02	5.52	977.19	971.67	
MW-732	S1	8/19/2016	15:01	4.54	978.89	974.35	
MW-733	S2	8/19/2016	9:36	7.33	978.98	971.65	
MW-734	WT/S1	8/19/2016	9:37	7.06	979.14	972.08	
MW-735	S2	8/19/2016	13:34	5.91	985.40	979.49	
MW-736	S2	8/19/2016	15:55	7.26	979.45	972.19	
MW-737	S2	8/19/2016	10:17	7.07	978.96	971.89	
MW-738	WT	8/19/2016	10:23	2.07	987.75	985.68	
MW-739	WT	8/19/2016	10:49	2.67	989.05	986.38	
MW-740	S2	8/19/2016	15:36	3.32	973.82	970.50	
MW-741	S2	8/19/2016	16:03	9.11	976.19	967.08	
MW-742	S2	8/19/2016	13:04	9.02	980.10	971.08	
MW-743	S2	8/19/2016	10:00	6.90	976.89	969.99	
MW-744	WT	8/19/2016	10:39	6.12	987.36	981.24	
MW-745	S2	8/19/2016	10:53	7.47	982.49	975.02	
MW-746	S2	8/19/2016	10:18	9.36	987.64	978.28	
MW-747R	S1	8/19/2016	10:27	7.25	988.14	980.89	
MW-748	S1	8/19/2016	11:20	4.72	981.98	977.26	
MW-749	WT	8/19/2016	11:22	0.88	981.94	981.06	
MW-750	WT	8/19/2016	14:29	3.24	985.32	982.08	
MW-753	WT	8/19/2016	14:31	2.25	985.37	983.12	
MW-754	WT	8/19/2016	14:33	3.03	985.85	982.82	
MW-757	WT	8/19/2016	11:28	2.01	988.95	986.94	
MW-758	S2	8/19/2016	15:53	3.60	982.34	978.74	
MW-759	S2	8/19/2016	15:34	6.12	976.87	970.75	
MW-760	WT	8/19/2016	11:25	3.68	984.49	980.81	
MW-764	WT/S1	8/19/2016	11:39	4.10	982.78	978.68	
MW-765	WT	8/19/2016	11:45	2.47	988.96	986.49	
MW-766	WT	8/19/2016	0:00		987.15		Covered
MW-767	WT	8/19/2016	12:24	5.27	988.92	983.65	
MW-768	WT	8/19/2016	0:00		985.64		Covered
MW-770	S1/S2	8/19/2016	10:30	7.90	992.62	984.72	
MW-771	WT	8/19/2016	10:31	2.62	992.54	989.92	
MW-772R	WT	8/19/2016	12:19	4.64			
MW-773	S1	8/19/2016	11:16	3.86	989.24	985.38	
MW-774	WT	8/19/2016	11:15	2.34	989.06	986.72	
MW-775	WT	8/19/2016	15:33	3.14	976.91	973.77	
MW-776	WT/S1	8/19/2016	15:38	3.98	974.01	970.03	
MW-777	S1	8/19/2016	14:20	6.97	985.65	978.68	
MW-778	S2	8/19/2016	11:38	6.17	982.78	976.61	
MW-779	S2	8/19/2016	15:04	9.24	979.40	970.16	
MW-780R	WT/S1	8/19/2016	13:37	3.62	984.63	981.01	
MW-781	WT	8/19/2016	13:27	4.53	982.06	977.53	
MW-782	WT/S1	8/19/2016	10:17	4.45	980.19	975.74	
MW-784	WT	8/19/2016	10:03	4.52	980.09	975.57	
MW-786	S2	8/19/2016	15:02	8.83	979.35	970.52	
MW-787	WT	8/19/2016	13:37	7.82	982.12	974.30	
MW-788	WT	8/19/2016	10:15	5.43	986.90	981.47	
MW-789	WT/S1	8/19/2016	14:12	3.60	982.43	978.83	
MW-790	WT	8/19/2016	11:50	2.63	988.92	986.29	
MW-792	S2	8/19/2016	11:49	10.71	989.02	978.31	

**ATTACHMENT A**  
**MONTHLY GROUNDWATER ELEVATION DATA**  
**OVERBURDEN MONITORING WELLS**  
**AUGUST 2016**  
**MAHLE BEHR DAYTON LLC - VANDALIA, OHIO**

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
MW-793	WT/S1	8/19/2016	13:32	8.03	982.03	974.00	
MW-794	WT/S1	8/19/2016	13:27	5.61	982.07	976.46	
MW-795	WT	8/19/2016	0:00		982.12		Has product
MW-796	WT/S1	8/19/2016	12:52	5.22	980.25	975.03	
MW-797	S1	8/19/2016	0:00		985.68		Abandoned
MW-798	S2	8/19/2016	0:00		982.19		Has product
MW-799	S2	8/19/2016	13:20	8.84	982.09	973.25	
MW-800	S2	8/19/2016	15:25	8.52	978.91	970.39	
MW-801	S1	8/19/2016	0:00		987.12		Covered
MW-802	WT	8/19/2016	12:01	3.09	988.71	985.62	
MW-804R	S1	8/19/2016	12:05	11.11	988.77	977.66	
MW-805	WT	8/19/2016	14:35	3.56	985.92	982.36	
MW-806	WT	8/19/2016	13:08	8.58	982.15	973.57	
MW-807	S2	8/19/2016	13:15	10.75	982.08	971.33	
MW-808	S2	8/19/2016	13:29	9.33	982.20	972.87	
MW-809	S1/S2	8/19/2016	13:18	8.38	982.16	973.78	
MW-810	WT	8/19/2016	13:04	8.32	980.40	972.08	
MW-811	WT	8/19/2016	10:57	3.65	982.88	979.23	
MW-812	S2	8/19/2016	9:23	5.75	969.95	964.20	
MW-813	S2	8/19/2016	9:16	6.30	975.43	969.13	
MW-814	WT/S1	8/19/2016	13:49	7.04	976.17	969.13	
MW-815	WT/S1	8/19/2016	13:47		979.30		No access
N001	WT	8/19/2016	0:00		985.43		Covered
N002	WT	8/19/2016	14:39	5.30	985.20	979.90	
N003	WT	8/19/2016	12:44	3.80	985.28	981.48	
N1	WT	8/19/2016	14:42	5.60	989.43	983.83	
N10	WT	8/19/2016	0:00		982.92		Covered
N11	WT	8/19/2016	14:29	2.53	981.63	979.10	
N12	WT	8/19/2016	14:30	9.15	984.82	975.67	
N13	WT	8/19/2016	14:28	3.84	982.21	978.37	
N15	WT	8/19/2016	13:59	4.18	982.47	978.29	
N16	WT	8/19/2016	15:59	3.10	982.04	978.94	
N17	WT	8/19/2016	16:01	4.90	982.23	977.33	
N2	WT	8/19/2016	0:00		989.37		Covered
N23	WT	8/19/2016	0:00		980.57		not measured
N25	WT	8/19/2016	14:17	4.30	985.33	981.03	
N26	WT	8/19/2016	13:54	4.40	983.29	978.89	
N57	WT	8/19/2016	14:27	7.62	982.50	974.88	
N62 (E2)	WT	8/19/2016	14:14	4.46			
N63	WT	8/19/2016	9:49	7.15	979.19	972.04	
N64	WT	8/19/2016	9:51	7.50	978.34	970.84	
N7	WT	8/19/2016	0:00		985.19		Covered
N9	WT	8/19/2016	13:33	6.97	985.38	978.41	
PZ-1	WT	8/19/2016	12:45	3.52	978.64	975.12	
PZ-10	WT	8/19/2016	11:52	6.17	983.23	977.06	
PZ-11	WT	8/19/2016	0:00		983.34		Covered
PZ-12	WT	8/19/2016	13:23	3.56	982.95	979.39	
PZ-13	WT	8/19/2016	13:25	3.40	983.61	980.21	
PZ-14	WT	8/19/2016	13:21	3.77	984.21	980.44	
PZ-15	WT	8/19/2016	13:20	4.55	985.51	980.96	
PZ-16R	WT	8/19/2016	13:18	4.88	985.16	980.28	
PZ-17	WT	8/19/2016	13:28	2.64	983.49	980.85	
PZ-18	WT	8/19/2016	13:06	3.38	985.28	981.90	
PZ-19	WT	8/19/2016	11:51	5.66	983.58	977.92	
PZ-2	WT	8/19/2016	0:00		978.12		Covered
PZ-20	WT	8/19/2016	11:41	3.73	982.28	978.55	
PZ-21	WT	8/19/2016	11:04	1.51	988.88	987.37	
PZ-22R	WT	8/19/2016	12:11	5.19	988.78	983.59	
PZ-23	WT	8/19/2016	11:00	4.20	989.04	984.84	

ATTACHMENT A  
MONTHLY GROUNDWATER ELEVATION DATA  
OVERBURDEN MONITORING WELLS  
AUGUST 2016  
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
PZ-24	WT	8/19/2016	11:08	1.56	988.82	987.26	
PZ-25	WT	8/19/2016	11:10	1.66	988.71	987.05	
PZ-26	WT	8/19/2016	0:00		989.05		Has product
PZ-28	WT	8/19/2016	11:24	3.07	989.02	985.95	
PZ-29R	WT	8/19/2016	12:37	1.99	988.22	986.23	
PZ-3	WT	8/19/2016	13:58	2.88	981.55	978.67	
PZ-30	WT	8/19/2016	13:09	4.72	985.25	980.53	
PZ-31	WT	8/19/2016	10:51	2.54	988.98	986.44	
PZ-4	WT	8/19/2016	12:50	3.19	981.32	978.13	
PZ-5	WT	8/19/2016	14:50	3.58	979.59	976.01	
PZ-6	WT	8/19/2016	12:28	5.80	981.83	976.03	
PZ-7	WT	8/19/2016	12:30	4.15	982.66	978.51	
PZ-8	WT	8/19/2016	12:40	5.51	983.11	977.60	
PZ-9	WT	8/19/2016	12:25	4.58	982.63	978.05	
VAW-115R	WT/S1	8/19/2016	14:32	4.03	985.24	981.21	
VBW-111	WT/S1	8/19/2016	13:52	4.41	984.26	979.85	
VBW-112	S1	8/19/2016	14:16	7.36	985.44	978.08	
VBW-113	WT	8/19/2016	13:50	3.13	985.87	982.74	
VCW-110	WT/S1	8/19/2016	13:08	4.60	985.84	981.24	
VDW-108	S2	8/19/2016	11:44	10.62	983.76	973.14	
VEW-105	WT	8/19/2016	0:00		988.08		Covered
VEW-106	WT	8/19/2016	10:21	2.64	987.79	985.15	
VEW-114R	WT	8/19/2016	10:37	2.64	988.86	986.22	
VFW-104	WT/S2	8/19/2016	0:00		978.74		not measured
VPW-101	S1	8/19/2016	14:49	4.02	986.81	982.79	
VPW-102	S2	8/19/2016	9:25	3.61	966.75	963.14	
VPW-103	WT/S1	8/19/2016	10:56	4.82	982.05	977.23	



ATTACHMENT A  
MONTHLY GROUNDWATER ELEVATION DATA  
BEDROCK MONITORING WELLS  
SEPTEMBER 2016  
MAHLE BEHR DAYTON LLC - VANDALIA, OHIO

Monitoring Well ID	Well Type	Date	Time	Water Level (ft)	Top of Riser Elevation (ft)	Groundwater Elevation (ft)	Remarks
CSX-18D	SR	9/2/2016	10:45	27.18	964.96	937.78	
MW-101D	SR	9/2/2016	14:30	43.77	988.15	944.38	
MW-204D	SR	9/2/2016	14:13	33.20	994.26	961.06	
MW-301D	SR	9/2/2016	10:12	36.94	974.47	937.53	
MW-401D	SR	9/2/2016	10:00	36.63	974.57	937.94	
MW-402D	SR	9/2/2016	15:27	26.82	966.36	939.54	
MW-403D	SR	9/2/2016	15:06	34.73	977.36	942.63	
MW-404D	SR	9/2/2016	14:48	43.05	988.83	945.78	
MW-405D	SR	9/2/2016	14:48	38.65	982.45	943.80	
MW-407D	SR	9/2/2016	10:55	18.92	956.24	937.32	
MW-408D	SR	9/2/2016	11:03	19.97	957.07	937.10	
MW-409D	SR	9/2/2016	11:22	10.52	942.49	931.97	
MW-410D	SR	9/2/2016	11:15	13.93	947.63	933.70	
MW-411D	SR	9/2/2016	11:55	26.72	943.43	916.71	
MW-412D	SR	9/2/2016	12:06	31.60	949.64	918.04	
MW-413D	SR	9/2/2016	10:20	32.41	970.13	937.72	
MW-414D	SR	9/2/2016	10:08	34.12	971.91	937.79	
MW-416D	SR	9/2/2016	10:27	28.10	965.84	937.74	
MW-417D	SR	9/2/2016	10:40	27.20	964.96	937.76	
MW-418D	SR	9/2/2016	10:34	24.25	965.06	940.81	
MW-419D	SR	9/2/2016	11:36	29.50	967.40	937.90	
MW-419M	MB	9/2/2016	11:37	29.55	967.50	937.95	
MW-420D	SR	9/2/2016	11:30	27.25	965.26	938.01	
MW-420M	MB	9/2/2016	11:32	26.92	964.85	937.93	
MW-421D	SR	9/2/2016	11:28	20.64	958.50	937.86	
MW-422D	SR	9/2/2016	14:56	39.41	980.98	941.57	
MW-424D	SR	9/2/2016	15:01	38.27	979.74	941.47	
MW-432D	SR	9/2/2016	13:28	37.07	974.50	937.43	
MW-432M	MB	9/2/2016	13:20	21.03	974.90	953.87	
MW-433D	SR	9/2/2016	13:12	32.41	970.43	938.02	
MW-434D	SR	9/2/2016	13:08	27.37	965.33	937.96	
MW-435D	SR	9/2/2016	13:04	18.15	955.91	937.76	
MW-436D	SR	9/2/2016	12:54	24.50	962.37	937.87	
MW-437D	SR	9/2/2016	12:50	12.37	948.38	936.01	
MW-438D	SR	9/2/2016	16:54		972.59	972.59	
MW-439D	SR	9/2/2016	12:35	18.17	955.58	937.41	
MW-440D	SR	9/2/2016	12:42	2.19	936.70	934.51	
MW-441D	SR	9/2/2016	13:29	36.45	974.38	937.93	
MW-442D	SR	9/2/2016	14:07	35.75	975.68	939.93	
MW-443D	SR	9/2/2016	13:57	41.75	979.72	937.97	
MW-444D	SR	9/2/2016	12:22	6.67	934.18	927.51	
MW-447D	SR	9/2/2016	13:50	40.99	965.84	924.85	
MW-448D	SR	9/2/2016	12:24	10.24	935.38	925.14	
MW-449D	SR	9/2/2016	13:46	35.42	970.44	935.02	
MW-450D	SR	9/2/2016	11:44	18.12	910.51	892.39	
MW-451D	SR	9/2/2016	13:37	29.75	967.32	937.57	
MW-453D	SR	9/2/2016	13:57		923.25	923.25	Flowing artesian

**Attachment B**  
**Data Usability Summary Reports**

**Data Usability Summary Report (DUSR)**  
**Vandalia Ohio Surface Water**  
**Analytical Laboratory: TestAmerica, Inc. - North Canton, OH**  
**Sample Delivery Group # 240-66596-1**

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-014-002)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
SW01-062916-1320
SW04-062916-1340
4212-062916-0001

Project Samples were analyzed according to the following analytical methods:

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA 8260B	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

#### **Preservation and Holding Times**

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

#### **Project-specific Reporting Limits**

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP) with the following exception(s):

During the analysis of VOCs (EPA Method 8260B) the reporting limits were greater than the Project-specific Quality Assurance Project Plan (QAPP) criteria. The following project sample data as specified in the following table were affected:

Target Analyte(s)	QAPP RL	Sample ID	Lab Package RL	Reason	Action
All VOCs	1x	SW04-062916-1340	1.67x	Dilution req'd by sample matrix	No further action

## GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

### Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

### Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols, with the following exception(s):

During the analysis of VOCs (SW846 8260B), the continuing calibration verification (CCV) standards for the following target compound(s) exhibited a percent drift (%D) greater than the acceptance criteria of 25% and/or a RRF less than 0.05:

Inst.	Date / Time	Target Analyte(s)	%D	RRF	Affected Sample(s)	Corrective Action
A3UX11	05/28/16 11:25	Dichlorodifluoromethane	-50.10	0.0785	None, ICAL within.	None.
		Chloromethane	-28.40	0.1613	None, below NFG limit	None.
		Hexane	28.00	0.0718	None, not trgt analyte	None.
		1,4-Dioxane	-40.40	0.0009	None, not trgt analyte	None.
A3UX11	07/08/16 08:11	1,4-Dioxane	-41.60	0.0009	None, not trgt analyte	None.

### Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target compounds were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Qualifiers
4212-062916-0001 Trip Blank	Acetone	6.2 J ug/L	None, samples ND.	None.

### System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

## **Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries**

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria. No qualification of the data is recommended.

## **Internal Standard Recoveries**

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

## **Target Compound Identification**

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

## **Sample Data Reporting Format**

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

## **Data Qualifiers**

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

## **Summary**

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Date: 9/12/2016

**Data Usability Summary Report (DUSR)**  
**MAHLE Vandalia Ohio Quarterly**  
**Analytical Laboratory: TestAmerica, Inc. - North Canton, OH**  
**Sample Delivery Group # 240-68536-1**

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Organic Data Review (EPA 540-R-014-002)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996, or Standard Methods for the Examination of Water and Wastewater, Eds 18-20.

This DUSR pertains to the following samples:

Sample ID
SW04-081816-1400
SW01-081816-1440
4184-081816-0001

Project Samples were analyzed according to the following analytical methods:

	Parameter	Analytical Method	Holding Time Criteria
1.	VOCs	EPA 8260B	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- Project-specific Reporting Limits
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

#### **Preservation and Holding Times**

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

#### **Project-specific Reporting Limits**

The reporting limits for the samples within this Sample Delivery Group (SDG) met or exceeded the minimum reporting limit requirements specified by the Project-specific Quality Assurance Project Plan (QAPP) with the following exception(s):

During the analysis of VOCs (EPA Method 8260B) the reporting limits were greater than the Project-specific Quality Assurance Project Plan (QAPP) criteria. The following project sample data as specified in the following table were affected:

Target Analyte(s)	QAPP RL	Sample ID	Lab Package RL	Reason	Action
All VOCs	1x	SW04-081816-1400	2.5x	Dilution req'd by sample matrix	No further action

## GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

## Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

## Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

## Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target compounds were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples, with the following exception(s):

Blank	Target Analyte(s)	Concn.	Affected Sample(s)	Qualifiers
4184-081816-0001	Acetone	7.8 J ug/L	None, samples ND.	None.
Trip Blank	Trichloroethene	0.27 J ug/L	None, samples >10x blank	None.

## System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. No qualification of the data is recommended.

## Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria, with the following exception(s):

LCS ID / Project Sample MS	Type	Target Analyte(s)	%R Criteria	%R	%RPD	Affected Sample(s)
N38-081816-0920	MS/MSD	All VOCs	Various	Within	Within	None, all within limits.

### **Internal Standard Recoveries**

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and – 50% of the corresponding CCV standard. No qualification of the data is recommended.

### **Target Compound Identification**

GC/MS qualitative analysis for organic parameters was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within  $\pm 0.06$  RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

### **Sample Data Reporting Format**

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format or equivalent. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

### **Data Qualifiers**

Samples that contain results between the MDL and RL were flagged as estimated, "J", by the laboratory. The data user should be aware that there is a possibility of false positive or mis-identification at the quantitation levels. The laboratory also qualified results when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

### **Summary**

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%, with the few exceptions noted above.

Date: 9/12/2016



**Attachment C**  
**Groundwater Migration Control System**  
**Monthly Discharge Reports**

**VANDALIA-MIGRATION CONTROL**  
**DAILY DISCHARGE REPORT- April 2016**

<u>DATE</u>	<u>AVERAGE INFLOW (GPM)</u> <u>BEDROCK/OVERBURDEN/SECOND SAND</u>	<u>DAILY DISCHARGE (GPD)</u>
4/1/2016	35.3	50892
4/2/2016	28.9	41683
4/3/2016	26.9	38701
4/4/2016	23.2	33477
4/5/2016	26.9	38751
4/6/2016	25.9	37325
4/7/2016	13.5	19400
4/8/2016	28.3	40760
4/9/2016	29.2	42020
4/10/2016	29.4	42269
4/11/2016	21.3	30653
4/12/2016	28.6	41130
4/13/2016	24.6	35402
4/14/2016	26.3	37827
4/15/2016	28.2	40579
4/16/2016	26.9	38687
4/17/2016	26.6	38346
4/18/2016	25.6	36892
4/19/2016	16.7	24002
4/20/2016	0.0	0
4/21/2016	0.0	0
4/22/2016	0.0	0
4/23/2016	0.0	0
4/24/2016	0.0	0
4/25/2016	0.0	0
4/26/2016	0.0	0
4/27/2016	0.0	0
4/28/2016	0.0	0
4/29/2016	13.8	19928
4/30/2016	29.0	41758

TOTAL DISCHARGE (gal) = 770481  
AVERAGE DAILY DISCHARGE (gal/day)= 25683

**VANDALIA-MIGRATION CONTROL  
DAILY DISCHARGE REPORT-May 2016**

<u>DATE</u>	<u>AVERAGE INFLOW (GPM) BEDROCK/OVERBURDEN/SECOND SAND</u>	<u>DAILY DISCHARGE (GPD)</u>
5/1/2016	28.3	40723
5/2/2016	33.4	48147
5/3/2016	28.1	40395
5/4/2016	27.1	39086
5/5/2016	25.8	37155
5/6/2016	25.2	36311
5/7/2016	24.9	35877
5/8/2016	24.6	35410
5/9/2016	27.8	40008
5/10/2016	28.6	41241
5/11/2016	29.2	42077
5/12/2016	29.4	42359
5/13/2016	33.8	48652
5/14/2016	34.3	49346
5/15/2016	31.7	45601
5/16/2016	30.7	44211
5/17/2016	30.2	43519
5/18/2016	29.4	42303
5/19/2016	28.4	40843
5/20/2016	30.0	43262
5/21/2016	29.7	42729
5/22/2016	29.1	41976
5/23/2016	29.0	41756
5/24/2016	28.3	40819
5/25/2016	28.6	41235
5/26/2016	29.3	42179
5/27/2016	30.5	43871
5/28/2016	31.9	45900
5/29/2016	33.1	47701
5/30/2016	33.8	48694
5/31/2016	35.5	51169

TOTAL DISCHARGE (gal) = 1324551  
AVERAGE DAILY DISCHARGE (gal/day)= 42727

**VANDALIA-MIGRATION CONTROL  
DAILY DISCHARGE REPORT-June 2016**

<u>DATE</u>	<u>AVERAGE INFLOW (GPM) BEDROCK/OVERBURDEN/SECOND SAND</u>	<u>DAILY DISCHARGE (GPD)</u>
6/1/2016	35.9	51671
6/2/2016	36.4	52440
6/3/2016	34.2	49290
6/4/2016	35.7	51427
6/5/2016	25.1	36109
6/6/2016	23.2	33375
6/7/2016	32.4	46695
6/8/2016	31.9	45893
6/9/2016	32.3	46557
6/10/2016	38.2	55024
6/11/2016	34.8	50051
6/12/2016	33.4	48042
6/13/2016	32.8	47226
6/14/2016	32.6	46930
6/15/2016	32.6	46907
6/16/2016	32.3	46518
6/17/2016	32.1	46200
6/18/2016	32.0	46017
6/19/2016	31.9	45888
6/20/2016	32.1	46245
6/21/2016	32.0	46041
6/22/2016	31.9	45952
6/23/2016	34.3	49371
6/24/2016	32.2	46307
6/25/2016	32.0	46139
6/26/2016	33.2	47815
6/27/2016	34.9	50271
6/28/2016	32.9	47367
6/29/2016	32.4	46713
6/30/2016	32.3	46466

TOTAL DISCHARGE (gal) = 1410946  
AVERAGE DAILY DISCHARGE (gal/day)= 47032

**VANDALIA-MIGRATION CONTROL  
DAILY DISCHARGE REPORT-July 2016**

<u>DATE</u>	<u>AVERAGE INFLOW (GPM) BEDROCK/OVERBURDEN/SECOND SAND</u>	<u>DAILY DISCHARGE (GPD)</u>
7/1/2016	32.4	46696
7/2/2016	32.0	46097
7/3/2016	34.4	49476
7/4/2016	32.7	47086
7/5/2016	34.8	50142
7/6/2016	33.7	48561
7/7/2016	33.0	47464
7/8/2016	32.5	46741
7/9/2016	32.2	46318
7/10/2016	32.0	46040
7/11/2016	31.9	45977
7/12/2016	31.9	45923
7/13/2016	33.9	48757
7/14/2016	34.8	50096
7/15/2016	33.2	47764
7/16/2016	32.5	46854
7/17/2016	32.2	46413
7/18/2016	35.4	50954
7/19/2016	31.3	45022
7/20/2016	30.8	44346
7/21/2016	30.8	44331
7/22/2016	30.8	44329
7/23/2016	30.8	44280
7/24/2016	30.8	44292
7/25/2016	30.7	44267
7/26/2016	32.2	46384
7/27/2016	31.7	45599
7/28/2016	31.6	45541
7/29/2016	33.9	48753
7/30/2016	32.4	46684
7/31/2016	32.0	46121

TOTAL DISCHARGE (gal) = 1447307  
AVERAGE DAILY DISCHARGE (gal/day)= 46687

**VANDALIA-MIGRATION CONTROL**  
**DAILY DISCHARGE REPORT-August 2016**

<u>DATE</u>	<u>AVERAGE INFLOW (GPM)</u> <u>BEDROCK/OVERBURDEN/SECOND SAND</u>	<u>DAILY DISCHARGE (GPD)</u>
8/1/2016	31.9	45970
8/2/2016	31.8	45791
8/3/2016	31.7	45617
8/4/2016	31.9	45938
8/5/2016	31.8	45795
8/6/2016	31.7	45671
8/7/2016	31.5	45343
8/8/2016	31.5	45394
8/9/2016	24.4	35076
8/10/2016	16.6	23970
8/11/2016	32.0	46129
8/12/2016	31.9	45950
8/13/2016	32.0	46031
8/14/2016	37.9	54535
8/15/2016	39.4	56731
8/16/2016	39.3	56521
8/17/2016	36.6	52712
8/18/2016	34.0	48951
8/19/2016	33.1	47732
8/20/2016	35.5	51159
8/21/2016	34.5	49712
8/22/2016	33.3	47909
8/23/2016	32.6	46952
8/24/2016	32.5	46729
8/25/2016	32.6	46959
8/26/2016	33.1	47731
8/27/2016	35.4	51003
8/28/2016	35.1	50578
8/29/2016	37.2	53609
8/30/2016	33.4	48115
8/31/2016	32.7	47073

TOTAL DISCHARGE (gal) = 1467386  
AVERAGE DAILY DISCHARGE (gal/day)= 47335

**VANDALIA-MIGRATION CONTROL**  
**DAILY DISCHARGE REPORT-September 2016**

<u>DATE</u>	<u>AVERAGE INFLOW (GPM)</u> <u>BEDROCK/OVERBURDEN/SECOND SAND</u>	<u>DAILY DISCHARGE (GPD)</u>
9/1/2016	32.1	46250
9/2/2016	31.8	45786
9/3/2016	31.6	45534
9/4/2016	31.5	45316
9/5/2016	31.4	45262
9/6/2016	31.4	45213
9/7/2016	30.8	44319
9/8/2016	32.5	46781
9/9/2016	34.6	49895
9/10/2016	33.2	47790
9/11/2016	32.1	46201
9/12/2016	31.6	45523
9/13/2016	31.3	45086
9/14/2016	32.0	46089
9/15/2016	31.9	45898
9/16/2016	19.5	28141
9/17/2016	0.0	0
9/18/2016	0.0	0
9/19/2016	23.0	33069
9/20/2016	34.4	49582
9/21/2016	33.4	48056
9/22/2016	26.7	38466
9/23/2016	0.0	0
9/24/2016	0.0	0
9/25/2016	0.0	0
9/26/2016	0.0	0
9/27/2016	0.0	0
9/28/2016	0.0	0
9/29/2016	0.0	0
9/30/2016	14.3	20652

TOTAL DISCHARGE (gal) = 908908  
AVERAGE DAILY DISCHARGE (gal/day)= 30297

**Attachment D**  
**Groundwater Migration Control System**  
**Activity Log**



Vandalia Treatment System  
Activity Log

Date	Time on site	Time left site	H&A personnel	Activities while on-site
2-17-16	13:00	14:00	MR	B.F. Change
2-19-16	10:00	12:00	MR & R.P.	Weekly & BF change
2-19-16	13:00	14:00	MR & R.P.	Eye Wash Station, replace solution
2/24/16	1100	1330	RP	shut down resp.
2/26/16	15:00	1700	MR	Weekly INSP - Change BF - Change Belts
2/29/16	16:45	16:55	WTR	change BF
3/4/16	1030	1330	RP	MC Sampling, BF change
3/7/16	20:00	21:00	MR	Change B.F. → on way to Fort Wayne
3/9/16	1500	1700	RP	Wkly.
3/11/16	1500	1600	MR	BF Change
3/14/16	1015	1215	ELS	BF change; check capture wells
3/17/16	1400	1500	RP/MR	BF Change - Change Out SS Pump
3/17/16	0800	1500	RP	SS pump change - out
3/18/16	1230	1500	RP/RP	BF change, SS pump stout, wkly
3/21/16	0700	2130	ELS/TMV	Acid Wash
3/24/16	1430	1530	MR	Change Out Bag Filters
3/25/16	1000	1400	MR/ELS	Hose Maintenance; Tanker Truck pH; Weekly Inspection
3/28/16	1130	1230	MR	Change Bag Filters
3/30/16	8:30	10:30	MR	Change Bag Filters & Alarm Response & Weekly Insp
3/30/16	11:30	12:10	MR/RP	Start up S.S. pump
3/31/16	11:00	15:00	MR	Receive Shipment of Maxisperse (1 Drum) & Replace Spent Drum
4/1/16	15:30	16:30	MR	Change Bag Filters - Finished April Bedrock w/L
4/4/16	10:30	12:30	ELS/WTR	Alarm Response & SS Pump Adjustments
4/7/16	13:00	14:00	MR	Alarm Response

Vandalia Treatment System  
Activity Log

Date	Time on site	Time left site	H&A personnel	Activities while on-site
4.8.16	12:30	14:30	MR	Weekly Inspection - Adjust S.S. Flow - Alarm Response
4.11.16	10:30	14:30	MR/TV	Alarm Response - Backwash - Change - Adjust SS Flow
4.12.16	14:30	15:30	MR	Change Bag Filters
4-14-16	13:00	14:45	TMV	Sample MC
4-15-16	17:05	19:30	WJR	Weekly inspection
4/18/16	11:45	14:45	TMV	Change BF Grease Blower Pumps
4/19/16	13:30	16:00	WJR	Weekly inspection
4/22/16	14:30	15:00	MR	Take pictures of Bypass Valve - Turn Off Heaters - Turn off Maxispers
4/29/16	10:00	14:45	MR & JR	Remove Bypass Piping (Air stripper), Change Bag Filters, Grease Pumps, Install sample port Between B.F. & GAC Pump Measure Maxispers & Restart System - Weekly Inspection
5/2/16	14:45	15:30	WJR	Change bag filters
5/4/16	14:40	15:50	WJR	Change bag filters
5/5/16	14:45	15:55	WJR	Sample MC
5/6/16	15:25	17:15	WJR	Weekly inspection, Change bag filters
5/10/16	14:20	17:35	WJR	Change bag filters, Re-started ss pump
5/13/16	14:50	15:40	WJR	Weekly inspection, Change bag filters
5/16/16	14:00	16:00	WJR	Change BF, sample MC
5/19/16	16:20	17:40	WJR	Weekly inspection, Change bag filters
5/24/16	07:00	15:30	ELS	Change BF, CARBON CLEANOW By VEOLIA
5/27/16	14:00	15:30	ELS	Weekly Inspection; Change BF
5/31/16	10:00	12:00	ELS/TMV	Reset SS Pump, Change BF
6/3/16	14:00	16:00	ELS	Weekly Inspection; Change BF
6/6/16	08:00	10:00	ELS	Alarm Response; Change BF; Grease pumps

Vandalia Treatment System  
Activity Log

Date	Time on site	Time left site	H&A personnel	Activities while on-site
6.8.16	10:00	14:00	M.R.	Weekly Inspection, Trash Removal, Recieve Maxisperse Shipment
6/10/16	10:00	14:00	ELS/MR	Change Bag Filters, Sample System
6.13.16	16:15	17:05	MR	Change Bag Filters
6/17/16	09:00	12:00	ELS	Change Bag Filters; Weekly Inspection; Fire Extinguisher Inspection
6/24/16	17:15	18:15	ELS	Change Bag Filters
6/24/16	15:30	17:30	ELS	Weekly Inspection, Change Bag Filters
6.27.16	17:00	18:00	MR	Change Bag Filters
7/1/16	10:00		ELS/TMV	Weekly Inspection; Change Bag Filters
7.5.16	8:00	9:00	MR	XO Bag Filters
7.6.16	10:00	13:00	MR	Sample System, trouble shoot OBIN port
7/8/16	12:00	1:00	TMV	Change BF, Weekly Inspection
7.11.16	12:00	13:00	MR	XO B.F.
7.12.16	12:20	13:35	MR	Weekly Inspection
7.20.16	13:00	14:30	MR	Weekly Inspection - Check on OB control panel
7.26.16	9:00	11:00	MR	Weekly Inspection
7/26/16	15:00	17:20	WTR	Re-started OB pump
8.2.16	10:30		MR	Weekly Insp., consolidate waste drums, sample system, remove transducers
8/10/16	11:30	14:00	TMV	Alarm Response / Change Maxisperse
8/12/16	12:00	13:15	TMV	Weekly Inspection
8.15.16	11:45	14:15	MR	- Check on system Fax capabilities / status
8/16/16	12:00	1330	ELS	Download System Data; Meet Pump Pro Personnel for broken pump
8/18/16	14:25	15:30	WTR	Weekly inspection
8.23.16	13:45	15:45	MR	Weekly Inspection
8/29/16	11:00	14:00	ELS/MR	Check system Fax capabilities. Download data. Maintenance

## Vandalia Treatment System Activity Log

[illegible]

**Attachment E**  
**Groundwater Migration Control System**  
**Inspection Checklists**

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 4.8.16  
INSPECTION BY: Michael Rasmussen

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS/SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y <sup>N</sup>	1	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 4.8.16 INSPECTION BY: M.R.							
	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED	CORRECTIVE MEASURES REQ'D	COMMENTS
					(YES) OR (NO)	(YES or NO)	
<b>GROUNDWATER SYSTEM</b>					Y	N	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	Y	N	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	1	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			N	1	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	1	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	1	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	1	
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X	N	1	
CHECK & CALIBRATE INSTRUMENTATION				X	N	1	
MANUALLY OPERATE & CHECK VALVES				X	N	1	
MANUALLY TEST SAFETY INTERLOCKS			X		N	1	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	14:20	<del>28.33</del> 28.94	970.44	<del>944.04</del> 943.50
MW-414D	13:40	28.33	971.91	943.58
MW-413D	13:50	<del>28</del> 26.62	970.13	943.51
MW-416D	14:00	22.31	966.84	943.53

Let Well Breathe  
# retake WL

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 4/15/16  
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS/SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	NA	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:



VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

							INSPECTION DATE: 4/15/16
							INSPECTION BY: WJR
	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
<b>GROUNDWATER SYSTEM</b>					X	Z	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				X	Z	
LOG SYSTEM OPERATING PARAMETERS	X				X	Z	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				X	Z	
TEST LEVEL CONTROLS ETC.	X				X	Z	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				X	Z	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				X	Z	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				X	Z	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	X	Z	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				X	Z	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				X	Z	
VERIFY PUMP OPERATION	X				X	Z	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			X	Z	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			X	Z	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	X	Z	
CHECK BAG FILTER PRESSURES	X				X	Z	
CHECK CARBON FILTER PRESSURES	X				X	Z	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				X	Z	
AMP TRANSFER PUMP MOTORS				X	X	Z	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	X	Z	
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X	X	Z	
CHECK & CALIBRATE INSTRUMENTATION				X	X	Z	
MANUALLY OPERATE & CHECK VALVES				X	X	Z	
MANUALLY TEST SAFETY INTERLOCKS			X		X	Z	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	16:05	26.42	970.44	244.02
MW-114D	17:38	28.84	971.91	943.07
MW-413D	17:55	27.15	970.13	942.98
MW-416D	17:45	22.86	965.84	942.98

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 4/19/16  
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	NA	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

						INSPECTION DATE: 4/19/16 INSPECTION BY: WJR	
	EVERY	EVERY	EVERY 3	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
	WEEK	MONTH	MONTHS				
<b>GROUNDWATER SYSTEM</b>					Y	22	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				X	22	
LOG SYSTEM OPERATING PARAMETERS	X				Y	22	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	22	
TEST LEVEL CONTROLS ETC.	X				Y	22	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	22	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	22	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	22	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	Y	22	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				X	22	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				X	22	
VERIFY PUMP OPERATION	X				X	22	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			22	11	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			22	11	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	22	11	
CHECK BAG FILTER PRESSURES	X				X	22	
CHECK CARBON FILTER PRESSURES	X				X	22	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				X	12	
AMP TRANSFER PUMP MOTORS				X	22	12	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	22	11	
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X	22	11	
CHECK & CALIBRATE INSTRUMENTATION				X	22	11	
MANUALLY OPERATE & CHECK VALVES				X	22	11	
MANUALLY TEST SAFETY INTERLOCKS			X		22	11	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	14:32	28.01	970.44	942.43
MW-414D	13:52	29.34	971.91	942.57
MW-413D	14:04	27.65	970.13	942.48
MW-416D	13:59	23.38	965.84	942.46

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 4.29.16  
INSPECTION BY: MR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	-	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		Y	N	Carbon Bypassed
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

					INSPECTION DATE: 4.29.16 INSPECTION BY: M.R.		
	EVERY	EVERY	EVERY 3	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
	WEEK	MONTH	MONTHS				
<b>GROUNDWATER SYSTEM</b>					Y	N	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	- Sump still getting clogged
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	N	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			N	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	N	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				N	N	Carbon Filter Bypassed
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	N	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	N	
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X	N	N	
CHECK & CALIBRATE INSTRUMENTATION				X	N	N	
MANUALLY OPERATE & CHECK VALVES				X	N	N	
MANUALLY TEST SAFETY INTERLOCKS			X		N	N	

Notes:

<sup>1</sup> Frequency that may be required is based on  
manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D			970.44	
MW-414D			971.91	
MW-413D			970.13	
MW-416D			965.84	

Restart system  
w.c. on transducers

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 5/6/16  
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS/SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	-	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 5/6/16 INSPECTION BY: WJR							
	EVERY	EVERY	EVERY 3	MIN. 6 MO.	INSPECTED/ TESTED	CORRECTIVE MEASURES REQ'D	COMMENTS
	WEEK	MONTH	MONTHS	OR AS REQ'D(1)	(YES) OR (NO)	(YES or NO)	
<b>GROUNDWATER SYSTEM</b>					X		
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				X		
LOG SYSTEM OPERATING PARAMETERS	X				X		
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				X		
TEST LEVEL CONTROLS ETC.	X				X		
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				X		
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				X		
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				X		
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	X		Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				X		
VISUALLY INSPECT ELECTRICAL SYSTEM	X				X		
VERIFY PUMP OPERATION	X				X		
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			X		
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			X		
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	X		
CHECK BAG FILTER PRESSURES	X				X		
CHECK CARBON FILTER PRESSURES	X				X		Carbon off-line
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				X		
AMP TRANSFER PUMP MOTORS				X	X		
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	X		
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X	X		
CHECK & CALIBRATE INSTRUMENTATION				X	X		
MANUALLY OPERATE & CHECK VALVES				X	X		
MANUALLY TEST SAFETY INTERLOCKS			X		X		

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	16:10	22.73	970.44	942.67
MW-414D	15:44	22.79	971.91	942.12
MW-413D	16:00	22.10	970.13	942.03
MW-416D	15:53	23.81	965.84	942.03

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 5/13/16  
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS/SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	N	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:



VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 5/13/16  
INSPECTION BY: WJR

					INSPECTED/	CORRECTIVE	COMMENTS
	EVERY	EVERY	EVERY 3	MIN. 6 MO.	TESTED	MEASURES REQ'D	
	WEEK	MONTH	MONTHS	OR AS REQ'D(1)	(YES) OR (NO)	(YES or NO)	
GROUNDWATER SYSTEM					Y	Z	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	Z	
LOG SYSTEM OPERATING PARAMETERS	X				Y	Z	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	Z	
TEST LEVEL CONTROLS ETC.	X				Y	Z	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	Z	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	Z	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	Z	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	Z	1	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	Z	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	Z	
VERIFY PUMP OPERATION	X				Y	Z	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Z	1	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Z	1	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	Z	1	
CHECK BAG FILTER PRESSURES	X				Y	Z	
CHECK CARBON FILTER PRESSURES	X				Z	1	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	Z	
AMP TRANSFER PUMP MOTORS				X	Z	1	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	Z	1	
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X	Z	1	
CHECK & CALIBRATE INSTRUMENTATION				X	Z	1	
MANUALLY OPERATE & CHECK VALVES				X	Z	1	
MANUALLY TEST SAFETY INTERLOCKS			X		Z	1	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D			970.44	
MW-414D			971.91	
MW-413D			970.13	
MW-416D			965.84	

Water levels not recorded; MW-301D submerged due to recent rain event

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 5/17/12  
INSPECTION BY: WJR

INSPECTION DATE: 5/17/16					
INSPECTION BY: WJR					
	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
SITE SAFETY					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
SITE SECURITY					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
SITE GROUNDS					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
WASTE					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

							INSPECTION DATE: 5/19/16
							INSPECTION BY: WJR
					INSPECTED/	CORRECTIVE	COMMENTS
	EVERY	EVERY	EVERY 3	MIN. 6 MO.	TESTED	MEASURES REQ'D	
	WEEK	MONTH	MONTHS	OR AS REQ'D(1)	(YES) OR (NO)	(YES or NO)	
<b>GROUNDWATER SYSTEM</b>					Y	N	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	1	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	1	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			N	1	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	1	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	1	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	1	
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X	N	1	
CHECK & CALIBRATE INSTRUMENTATION				X	N	1	
MANUALLY OPERATE & CHECK VALVES				X	N	1	
MANUALLY TEST SAFETY INTERLOCKS			X		N	1	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	17:30	29.19	970.44	941.25
MW-414D	17:10	30.54	971.91	941.37
MW-413D	17:25	28.85	970.13	941.28
MW-416D	17:15	24.55	965.84	941.29

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 5-27-16  
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	Y	Needs Service for yearly check
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		Y	N	CARBON REMOVED FROM VESSELS 5/24
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 5-27-16  
INSPECTION BY: ELS

					INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
	EVERY	EVERY	EVERY 3	MIN. 6 MO.			
	WEEK	MONTH	MONTHS	OR AS REQ'D(1)			
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

<sup>1</sup> Frequency that may be required is based on  
manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	1004	30.03	970.44	940.41
MW-414D	0959	31.36	971.91	940.55
MW-413D	0956	29.66	970.13	940.47
MW-416D	0941	25.39	965.84	940.45

WATER LEVELS COLLECTED 5/25/16

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 6-3-16  
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	Y	Fire Extinguisher needs yearly service
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
<b>WASTE</b>					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 6-3-19  
INSPECTION BY: ELS

					INSPECTED/	CORRECTIVE	COMMENTS
	EVERY	EVERY	EVERY 3	MIN. 6 MO.	TESTED	MEASURES REQ'D	
	WEEK	MONTH	MONTHS	OR AS REQD(1)	(YES) OR (NO)	(YES or NO)	
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	1508	32.17	970.44	938.27
MW-414D	1503	33.55	971.91	938.36
MW-413D	1500	31.84	970.13	938.29
MW-416D	1457	27.55	965.84	938.29

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 6.8.16  
INSPECTION BY: Michael Rasmussen

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		✓	N	
EYEWASH STATION	X		✓	N	
FIRE EXTINGUISHERS/SMOKE DETECTORS	X		✓	N	
EMERGENCY LIGHTING	X		✓	N	
SITE ISSUES	X		✓	N	
<b>SITE SECURITY</b>					
FENCING		X	✓	N	
GATES		X	✓	N	
LOCKS		X	✓	N	
SIGNS		X	✓	N	
SITE		X	✓	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	✓	N	
BUILDING		X	✓	N	
RECOVERY WELL		X	✓	N	
ACCESS ROAD		X	✓	N	
<b>WASTE</b>					
CARBON	X		✓	N	NA
SOLID	X		✓	N	NA

Notes:



VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

					INSPECTION DATE: 6.8.16 INSPECTION BY: Michael Rasmussen		
	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X			✓	✓	✓	
LOG SYSTEM OPERATING PARAMETERS	X			✓	✓	✓	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X			✓	✓	✓	
TEST LEVEL CONTROLS ETC.	X			✓	✓	✓	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X			✓	✓	✓	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X			✓	✓	✓	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X			✓	✓	✓	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	✓	✓	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				✓	✓	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				✓	✓	
VERIFY PUMP OPERATION	X				✓	✓	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			✓	✓	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			✓	✓	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	✓	✓	
CHECK BAG FILTER PRESSURES	X				✓	✓	
CHECK CARBON FILTER PRESSURES	X				✓	✓	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				✓	✓	
AMP TRANSFER PUMP MOTORS				X	✓	✓	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	✓	✓	
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X	✓	✓	
CHECK & CALIBRATE INSTRUMENTATION				X	✓	✓	
MANUALLY OPERATE & CHECK VALVES				X	✓	✓	
MANUALLY TEST SAFETY INTERLOCKS			X		✓	✓	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D		31.87	970.44	968.857
MW-414D		33.05	971.91	968.86
MW-413D		31.35	970.13	968.78
MW-416D		27.01	965.84	968.83

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 6-17-16  
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
<b>WASTE</b>					
CARBON	X		Y	N/A	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 6-17-16

INSPECTION BY: ELS

					INSPECTED/	CORRECTIVE	COMMENTS
	EVERY	EVERY	EVERY 3	MIN. 6 MO.	TESTED	MEASURES REQ'D	
	WEEK	MONTH	MONTHS	OR AS REQD(1)	(YES) OR (NO)	(YES or NO)	
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	2	
LOG SYSTEM OPERATING PARAMETERS	X				Y	2	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	2	
TEST LEVEL CONTROLS ETC.	X				Y	2	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	2	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	2	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	2	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	2	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	2	
VERIFY PUMP OPERATION	X				Y	2	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	2	
CHECK CARBON FILTER PRESSURES	X				Y	2	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	2	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

<sup>1</sup> Frequency that may be required is based on  
manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	0935	32.55	970.44	937.89
MW-414D	0930	33.88	971.91	938.03
MW-413D	0925	32.17	970.13	937.96
MW-416D	0920	27.84	965.84	938.00

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 6-24-16  
INSPECTION BY: ELK

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
<b>WASTE</b>					
CARBON	X		Y	N/A	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 6-24-16 INSPECTION BY: GLS							
	EVERY	EVERY	EVERY 3	MIN. 6 MO.	INSPECTED/ TESTED	CORRECTIVE MEASURES REQ'D	COMMENTS
	WEEK	MONTH	MONTHS	OR AS REQ'D(1)	(YES) OR (NO)	(YES or NO)	
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	2	
LOG SYSTEM OPERATING PARAMETERS	X				Y	2	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	2	
TEST LEVEL CONTROLS ETC	X				Y	2	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	2	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	2	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	2	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X		2	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	2	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	2	
VERIFY PUMP OPERATION	X				Y	2	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	2	
CHECK CARBON FILTER PRESSURES	X				Y	2	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	2	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

<sup>1</sup> Frequency that may be required is based on  
manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D			970.44	
MW-414D			971.91	
MW-413D			970.13	
MW-416D			966.84	

\* NO WATER LEVEL COLLECTED BECAUSE OF  
MALFUNCTIONING EQUIPMENT \*  
(WATER LEVEL  
TAPE)

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7-1-16

INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	Talk wheels around building
<b>SITE SECURITY</b>					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
<b>WASTE</b>					
CARBON	X		Y	N/A	No carbon vessels
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7-1-16 INSPECTION BY: ELS							
	EVERY	EVERY	EVERY 3	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
	WEEK	MONTH	MONTHS				
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	1050	33.06	970.44	937.38
MW-414D	1045	34.30	971.91	937.61
MW-413D	1041	32.60	970.13	937.53
MW-416D	1033	28.26	965.84	937.58

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7/8/16  
INSPECTION BY: TMV

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
<b>WASTE</b>					
CARBON	X		Y	N	Not in use
SOLID	X		Y	N	

Notes:



VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7/8/16 INSPECTION BY: JMV							
	EVERY	EVERY	EVERY 3	MIN. & MO.	INSPECTED/ TESTED	CORRECTIVE MEASURES REQ'D	COMMENTS
	WEEK	MONTH	MONTHS	OR AS REQ'D(1)	(YES) OR (NO)	(YES or NO)	
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	9:52	33.05	970.44	937.39
MW-414D	9:45	34.37	971.91	937.54
MW-413D	10:00	32.63	970.13	937.50
MW-416D	10:00	28.33	965.84	937.51

WLS collected on 7/7/16 by M Rasmussen

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7.12.16  
INSPECTION BY: MR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	NA	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		Y	N	none
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7.12.16 INSPECTION BY: ME							
	EVERY	EVERY	EVERY 3	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
	WEEK	MONTH	MONTHS				
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	2	
LOG SYSTEM OPERATING PARAMETERS	X				Y	2	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	2	
TEST LEVEL CONTROLS ETC	X				Y	2	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	2	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	2	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	2	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	Y	2	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	2	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	2	
VERIFY PUMP OPERATION	X				Y	2	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	2	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	2	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	Y	2	
CHECK BAG FILTER PRESSURES	X				Y	2	
CHECK CARBON FILTER PRESSURES	X				Y	2	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	2	
AMP TRANSFER PUMP MOTORS				X	Y	2	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	Y	2	
AIR STRIPPER - MEASURE AIR FLOW FULL INSPECTION				X	Y	2	
CHECK & CALIBRATE INSTRUMENTATION				X	Y	2	
MANUALLY OPERATE & CHECK VALVES				X	Y	2	
MANUALLY TEST SAFETY INTERLOCKS			X		Y	2	

Notes:

<sup>1</sup> Frequency that may be required is based on  
manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	12:30	33.12	970.44	937.32
MW-414D	12:34	34.39	971.91	937.52
MW-413D	12:41	32.79	970.13	937.34
MW-416D	12:51	28.44	966.84	937.40

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7.20.16

INSPECTION BY: MR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	I	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		-	-	N.A.
SOLID	X		Y	Y	Trash removed from MC

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7.20.14  
INSPECTION BY: MR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	1	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	1	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			N	1	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	1	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	NA
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	1	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	1	
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X	N	1	
CHECK & CALIBRATE INSTRUMENTATION				X	N	1	
MANUALLY OPERATE & CHECK VALVES				X	N	1	
MANUALLY TEST SAFETY INTERLOCKS			X		N	1	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	14:00	33.20	970.44	9167.24
MW-414D	14:06	34.55	971.91	937.36
MW-413D	13:53	32.84	970.13	937.29
MW-416D	14:17	28.44	965.84	937.40

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7.26.16  
INSPECTION BY: Michael Rasmussen

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	YN	-	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		-	-	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 7.26.16  
INSPECTION BY: Michael Rasmussen

	EVERY	EVERY	EVERY 3	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES OR NO)	COMMENTS
	WEEK	MONTH	MONTHS				
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	I	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	I	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			N	I	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	I	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				I	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	I	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	I	
AIR STRIPPER - MEASURE AIR FLOW - FULL INSPECTION				X	N	I	
CHECK & CALIBRATE INSTRUMENTATION				X	N	I	
MANUALLY OPERATE & CHECK VALVES				X	N	I	
MANUALLY TEST SAFETY INTERLOCKS			X		N	I	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	10:00	33.76	970.44	936.68
MW-414D	10:07	35.07	971.91	936.84
MW-413D	10:16	33.37	970.13	936.76
MW-416D	10:27	28.94	966.84	936.90

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 8.2.16  
INSPECTION BY: Michael Rasmussen

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	1	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		-	-	
SOLID	X		Y	N	

Notes:



VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 8.2.16  
INSPECTION BY: Michael Rasmussen

	EVERY	EVERY	EVERY 3	MIN. 6 MO.	INSPECTED/ TESTED	CORRECTIVE MEASURES REQ'D	COMMENTS
	WEEK	MONTH	MONTHS	OR AS REQ'D(1)	(YES) OR (NO)	(YES or NO)	
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X						
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	N	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	N	Monthly System Sampling
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	N	
CHECK BAG FILTER PRESSURES	X				Y	N	- No Bag Filters in use
CHECK CARBON FILTER PRESSURES	X				N	N	Carbon not in use
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	N	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	N	
AIR STRIPPER - MEASURE AIR FLOW FULL INSPECTION				X	N	N	
CHECK & CALIBRATE INSTRUMENTATION				X	N	N	
MANUALLY OPERATE & CHECK VALVES				X	N	N	
MANUALLY TEST SAFETY INTERLOCKS			X		N	N	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	12:15	34.08	970.44	936.36
MW-414D	12:23	35.58	971.91	936.40
MW-413D	12:31	33.75	970.13	936.38
MW-416D	12:41	29.42	965.84	936.42

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 8/12/16  
INSPECTION BY: TMV

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	Replace soon
FIRE EXTINGUISHERS/SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	could use vegetation control
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X				
SOLID	X				

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 8/12/16  
INSPECTION BY: JMV

					INSPECTED/	CORRECTIVE	COMMENTS
	EVERY	EVERY	EVERY 3	MIN. & MO.	TESTED	MEASURES REQ'D	
	WEEK	MONTH	MONTHS	OR AS REQ'D(1)	(YES) OR (NO)	(YES or NO)	
GROUNDWATER SYSTEM							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCK			X				

Notes:

\* Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	13:06	34.46	970.44	935.98
MW-414D	13:02	35.77	971.91	936.14
MW-413D	12:59	34.07	970.13	936.06
MW-416D	12:54	29.75	966.84	936.09

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 8/18/16  
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	N	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		—	—	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 8/18/16  
INSPECTION BY: WJR

					INSPECTED/ TESTED	CORRECTIVE MEASURES REQ'D	COMMENTS
	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQ'D(1)	(YES) OR (NO)	(YES or NO)	
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	Z	
LOG SYSTEM OPERATING PARAMETERS	X				Y	Z	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	Z	
TEST LEVEL CONTROLS ETC	X				Y	Z	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	Z	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	Z	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	Z	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	Z	1	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	Z	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	Z	
VERIFY PUMP OPERATION	X				Y	Z	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Z	1	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Z	1	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	Z	1	
CHECK BAG FILTER PRESSURES	X				Y	1	
CHECK CARBON FILTER PRESSURES	X				Y	1	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	1	
AMP TRANSFER PUMP MOTORS				X	Z	1	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	Z	1	
AIR STRIPPER - MEASURE AIR FLOW FULL INSPECTION				X	Z	1	
CHECK & CALIBRATE INSTRUMENTATION				X	Z	1	
MANUALLY OPERATE & CHECK VALVES				X	Z	1	
MANUALLY TEST SAFETY INTERLOCKS			X		Z	1	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	14:55	33.42	970.44	937.02
MW-414D	14:30	34.57	971.91	937.34
MW-413D	14:45	32.87	970.13	937.26
MW-416D	14:35	28.56	965.84	937.28

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 8.23.16  
INSPECTION BY: Michael Rasmussen

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		-	-	NA
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 8.23.16

INSPECTION BY: Michael Rasmussen

	EVERY	EVERY	EVERY 3	MIN. & MO.	INSPECTED/ TESTED	CORRECTIVE MEASURES REQ'D	COMMENTS
	WEEK	MONTH	MONTHS	OR AS REQ'D(1)			
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	N	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			N	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	N	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	N	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	N	
AIR STRIPPER - MEASURE AIR FLOW - FULL INSPECTION				X	N	N	
CHECK & CALIBRATE INSTRUMENTATION				X	N	N	
MANUALLY OPERATE & CHECK VALVES				X	N	N	
MANUALLY TEST SAFETY INTERLOCKS			X		N	N	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	15:15	33.00	970.44	937.44
MW-414D	15:20	34.46	971.91	937.45
MW-413D	15:27	32.67	970.13	937.46
MW-416D	15:36	28.37	965.84	937.47

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 9.1.16  
INSPECTION BY: MR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	NY	→ Needs to be refilled w/ solution
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	Y	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	N	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		N	N	NA
SOLID	X		Y	N	

Notes:



VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 9.1.16  
INSPECTION BY: Michael Resmussen

					INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
	EVERY	EVERY	EVERY 3	MIN. 6 MO. OR			
	WEEK	MONTH	MONTHS	AS REQ'D(1)			
<b>GROUNDWATER SYSTEM</b>					Y	N	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	I	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	I	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			N	I	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	I	
CHECK BAG FILTER PRESSURES	X				Y	N	NA
CHECK CARBON FILTER PRESSURES	X				Y	N	NA
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	I	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	I	
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X	N	I	
CHECK & CALIBRATE INSTRUMENTATION				X	N	I	
MANUALLY OPERATE & CHECK VALVES				X	N	I	
MANUALLY TEST SAFETY INTERLOCKS			X		N	I	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	15:00	32.78	970.44	937.66
MW-414D	15:07	33.92	971.91	937.99
MW-413D	15:15	32.23	970.13	937.90
MW-416D	15:23	27.96	965.84	937.88

9.1.16

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 9.6.16  
INSPECTION BY: Michael Rasmussen

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	Y	← Needs New Solution
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	N	-	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		-	-	N.A. Carbon OFF Line
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 9.6.14 INSPECTION BY: Michael Rasmussen							
	EVERY	EVERY	EVERY 3	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
	WEEK	MONTH	MONTHS				
<b>GROUNDWATER SYSTEM</b>					Y	N	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	I	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	N	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	N	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	N	
AIR STRIPPER - MEASURE AIR FLOW - FULL INSPECTION				X	N	N	
CHECK & CALIBRATE INSTRUMENTATION				X	N	N	
MANUALLY OPERATE & CHECK VALVES				X	N	N	
MANUALLY TEST SAFETY INTERLOCKS			X		N	N	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	14:10	33.08	970.44	937.36
MW-414D	14:00	34.17	971.91	937.74
MW-413D	14:22	32.48	970.13	937.65
MW-416D	14:36	28.11	965.84	937.73

← 37.11 - 4.03

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 9-14-16  
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	Y	due for change out
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X			
GATES		X			
LOCKS		X			
SIGNS		X			
SITE		X			
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X			
BUILDING		X			
RECOVERY WELL		X			
ACCESS ROAD		X			
<b>WASTE</b>					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 9-14-16 INSPECTION BY: ELS							
	EVERY	EVERY	EVERY 3	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
	WEEK	MONTH	MONTHS				
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X					
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X					
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW, FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X				

Notes:

\* Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	11:20	37.71	970.44	936.76
MW-414D	11:15	34.79	971.01	937.12
MW-413D	11:10	33.10	970.13	937.03
MW-416D	11:00	28.76	965.84	937.08

FOR  
Riser change +4.03 Ft

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 9-23-16  
INSPECTION BY: ELS

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	changed 9-23-16
FIRE EXTINGUISHERS\SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y		
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		Y	N	
SOLID	X		Y	N	

Notes:

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

						INSPECTION DATE: 9-23-16 INSPECTION BY: Ecs	
	EVERY	EVERY	EVERY 3	MIN. 6 MO. OR AS REQD(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQD (YES or NO)	COMMENTS
	WEEK	MONTH	MONTHS				
<b>GROUNDWATER SYSTEM</b>							
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	Y	BR Pump malfunctioning
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X			Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	Y	BR Pump Malfunctioning
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			Y	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			Y	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X			
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X			
TRANSFER PUMPS - PERFORM P.M. SERVICE				X			
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X			
CHECK & CALIBRATE INSTRUMENTATION				X			
MANUALLY OPERATE & CHECK VALVES				X			
MANUALLY TEST SAFETY INTERLOCKS			X		Y	N	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D			970.44	
MW-414D			971.91	
MW-413D			970.13	
MW-416D			966.84	

\* \* No water levels due to malfunctioning BR Pump

VANDALIA-MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
TABLE 1 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 9-30-16  
INSPECTION BY: WJR

	MINIMUM FREQUENCY		INSPECTED/	CORRECTIVE	
	EVERY	EVERY	TESTED	MEASURES REQ'D	COMMENTS
	WEEK	MONTH	(YES or NO)	(YES or NO)	
<b>SITE SAFETY</b>					
FIRST AID KIT	X		Y	N	
EYEWASH STATION	X		Y	N	
FIRE EXTINGUISHERS/SMOKE DETECTORS	X		Y	N	
EMERGENCY LIGHTING	X		Y	N	
SITE ISSUES	X		Y	N	
<b>SITE SECURITY</b>					
FENCING		X	Y	N	
GATES		X	Y	N	
LOCKS		X	Y	N	
SIGNS		X	Y	N	
SITE		X	Y	N	
<b>SITE GROUNDS</b>					
DRAINAGE DITCHES/SWALES		X	Y	N	
BUILDING		X	Y	N	
RECOVERY WELL		X	Y	N	
ACCESS ROAD		X	Y	N	
<b>WASTE</b>					
CARBON	X		-	-	
SOLID	X		Y	N	

Notes:



VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS MAINTENANCE PLAN  
TABLE 2 - SITE INSPECTION CHECKLIST

INSPECTION DATE: 9-30-16  
INSPECTION BY: WJR

	EVERY WEEK	EVERY MONTH	EVERY 3 MONTHS	MIN. 6 MO. OR AS REQ'D(1)	INSPECTED/ TESTED (YES) OR (NO)	CORRECTIVE MEASURES REQ'D (YES or NO)	COMMENTS
<b>GROUNDWATER SYSTEM</b>					N	N	
VERIFY EQUIPMENT IS OPERATING WITH NO DAMAGE OR LEAKS	X				Y	N	
LOG SYSTEM OPERATING PARAMETERS	X				Y	N	
USE PLC TO CHECK SYSTEM OPERATING CONDITIONS	X				Y	N	
TEST LEVEL CONTROLS ETC.	X				Y	N	
USE PLC TO VERIFY DIAL OUT STATUS IS ENABLED	X				Y	N	
INSPECT CONTAINMENT SUMP/FLOOR SEAL	X				Y	N	
INSPECT BUILDING AND FOUNDATION INTEGRITY	X				Y	N	
INSPECT/VERIFY HEATING AND VENTILATING SYSTEM OPERATIONS				X	N	N	Test Trip Set Point and Clean Screens and Louvers
INSPECT/VISUALLY CHECK LIGHTING SYSTEM & EMERGENCY SYSTEM	X				Y	N	
VISUALLY INSPECT ELECTRICAL SYSTEM	X				Y	N	
VERIFY PUMP OPERATION	X				Y	N	
WELL LEVELS - MANUALLY CHECK WATER LEVEL VS. PLC DATA		X			N	N	
SAMPLING (SEE TABLE IN NPDES ATTACHMENTS)		X			N	N	
AIR STRIPPER - CHECK SOLIDS ACCUMULATION				X	N	N	
CHECK BAG FILTER PRESSURES	X				Y	N	
CHECK CARBON FILTER PRESSURES	X				Y	N	
AIR STRIPPER - CHECK BLOWER OPERATION AND PRESSURE DROP	X				Y	N	
AMP TRANSFER PUMP MOTORS				X	N	N	
TRANSFER PUMPS - PERFORM P.M. SERVICE				X	N	N	
AIR STRIPPER - MEASURE AIR FLOW. FULL INSPECTION				X	N	N	
CHECK & CALIBRATE INSTRUMENTATION				X	N	N	
MANUALLY OPERATE & CHECK VALVES				X	N	N	
MANUALLY TEST SAFETY INTERLOCKS			X		N	N	

Notes:

<sup>1</sup> Frequency that may be required is based on manufacturer data for the system equipment, system alarms, and Owner requirements

WELL ID	TIME	WATER LEVEL TOR	TOR ELEVATION	WATER ELEVATION TOR
MW-301D	17:20	34.79	974.47 970.44	939.68
MW-414D	16:55	31.85	971.91	940.06
MW-413D	17:10	30.20	970.13	939.93
MW-416D	17:05	25.86	965.84	939.98

TOR Changed River Elev. +4.03

**Attachment F**  
**Bedrock Groundwater Migration Control System**  
**Shutdown Reports**

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 4.1.16	
TIME: 15:03	
BY: MR	
SYSTEM NAME: GWMC	
SYSTEM COMPONENT: GAC Valve to 2nd Carbon	
REASON FOR REPORT: - <del>Stop</del> Manual Shutdown of system during routine Bag Filter Change	
REASON FOR SHUTDOWN: - Water Flow not Controlled by normal shut-off valves	
ACTION TAKEN: <del>Stop</del> Shutdown, Restart & retry Bag Change with <u>All</u> valves off & water in Airstripper pumped down	
SHUTDOWN DATE & TIME: 4.1.16 @ 15:03	
START-UP DATE & TIME: 4.1.16 @ 15:40	
COMMENTS/SUGGESTIONS: Investigate Valves & Lines to Carbon Vessel #1 & Carbon Vessel #2	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 4/4/16	
TIME: 11:00	
BY: ELC	
SYSTEM NAME: GWMc	SYSTEM COMPONENT: Process 38
REASON FOR REPORT: Automatic Shutdown	
REASON FOR SHUTDOWN: Process 38	
ACTION TAKEN: Pump down sight glass, change bag Filters, restart system.	
SHUTDOWN DATE & TIME: 4/4/16 06:57	
START-UP DATE & TIME: 4/4/16 11:20	
COMMENTS/SUGGESTIONS:	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	_____
ACTION/RESPONSE	_____

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 4.7.16	
TIME: 13:00	
BY: MR	
SYSTEM NAME:	SYSTEM COMPONENT: ASLSHH
REASON FOR REPORT: Alarm Response - Automatic Shutdown	
REASON FOR SHUTDOWN: - Auto Shutdown ASLSHH → Rain Last Night (Heavy)	
ACTION TAKEN: Change B.F. & Restart System	
SHUTDOWN DATE & TIME: 4.6.16 @ 22:40	
START-UP DATE & TIME: 4.7.16 @ 13:25	
COMMENTS/SUGGESTIONS: —	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 4.8.16	
TIME: 13:30	
BY: MR	
SYSTEM NAME: GWMC	SYSTEM COMPONENT: Bag Filter & Valves
REASON FOR REPORT: System Shutdown, Manual	
REASON FOR SHUTDOWN: While Changing Bag Filters, Valves were shut, yet water flowed continuously through Bag Filter Housing	
ACTION TAKEN: - Shut down system, use red valves to individually shut each B.F.	
*ALSO → Sump Pump keeps getting clogged & Alarming System	
SHUTDOWN DATE & TIME: 4.8.16 12:37	
START-UP DATE & TIME: 4.8.16 13:35	
COMMENTS/SUGGESTIONS: - Check out Carbon Vessels & Sump Pump	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL <input type="checkbox"/> ROUTINE <input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 4.11.16	
TIME: 11:00	
BY: M.R.	
SYSTEM NAME: GWMC	SYSTEM COMPONENT: ASHSHH
REASON FOR REPORT: Automatic Shutdown	
REASON FOR SHUTDOWN: AS HS HH → Rain last night, system went into Alarm	
ACTION TAKEN: - x0 Bag Filters - Perform Backwash	
SHUTDOWN DATE & TIME: 03:10 4.11.16	
START-UP DATE & TIME: 12:45 4.11.16	
COMMENTS/SUGGESTIONS: Run another Back Wash	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL <input type="checkbox"/> ROUTINE <input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 4/18/16	
TIME: 12:30	
BY: TMW	
SYSTEM NAME: GWMC	
SYSTEM COMPONENT: Bag Filters	
REASON FOR REPORT: Change B.F	
REASON FOR SHUTDOWN:	
ACTION TAKEN: Change BL	
SHUTDOWN DATE & TIME: 4/18/16 12:30	
START-UP DATE & TIME: 4/18/16 14:35	
COMMENTS/SUGGESTIONS:	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input checked="checked" type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	



VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 4/19/16	
TIME: 16:00	
BY: WJR	
SYSTEM NAME: GWMC	SYSTEM COMPONENT: MC
REASON FOR REPORT: Manual Shutdown	
REASON FOR SHUTDOWN: Treatment verification; Removed air stripper bypass piping; Re-started system without carbon per Ohio EPA approval	
ACTION TAKEN:	
SHUTDOWN DATE & TIME: 4/19/16 16:00	
START-UP DATE & TIME: 4/29/16 12:30	
COMMENTS/SUGGESTIONS:	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 6/6/2016	
TIME: 08:00	
BY: ELK	
SYSTEM NAME: GWMC	SYSTEM COMPONENT: ASLSHH
REASON FOR REPORT: Automatic System Shutdown	
REASON FOR SHUTDOWN: ASLSHH Alarm triggered Bag Filters clogged with iron precipitate.	
ACTION TAKEN: Changed bag filters, pumped down sight glass and re-started the system	
SHUTDOWN DATE & TIME: 6/5/2016 @ 17:29	
START-UP DATE & TIME: 6/6/2016 @ 08:48	
COMMENTS/SUGGESTIONS:	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 6.8.16	
TIME: 11:05	
BY: MR	
SYSTEM NAME: GWMC	SYSTEM COMPONENT: Bag Filters
REASON FOR REPORT: - Shutdown System to Remove & Replace Old Bag Filters	
REASON FOR SHUTDOWN: - Replace Filters Caked into Housing by Fe deposits.	
ACTION TAKEN: Replace Bag Filters & Restart System	
SHUTDOWN DATE & TIME: 6.8.16 @ 11:05	
START-UP DATE & TIME: 6.8.16 @ 11:30	
COMMENTS/SUGGESTIONS: ✓	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 8/10/16	
TIME: 13:00	
BY: TMV	
SYSTEM NAME: G'NMC	SYSTEM COMPONENT: Carbon Pump
REASON FOR REPORT: Process 38	
REASON FOR SHUTDOWN: Tripped breaker	
ACTION TAKEN: Reset the breaker restart system	
SHUTDOWN DATE & TIME: 8/9/16 18:54	
START-UP DATE & TIME: 8/10/16 13:00	
COMMENTS/SUGGESTIONS:	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 8.15.16	
TIME: 14:00	
BY: MR	
SYSTEM NAME: GWMC	SYSTEM COMPONENT: System
REASON FOR REPORT: Test Alarm Faxes & Sump Pump Overflow Switch - System Down	
REASON FOR SHUTDOWN: Test Sump pump overflow shutoff Switch & System Alarm Faxes	
ACTION TAKEN: - Restart system	
SHUTDOWN DATE & TIME: 8.15.16 @ 13:15	
START-UP DATE & TIME: 8.15.16 @ 13:43	
COMMENTS/SUGGESTIONS:	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL <input type="checkbox"/> ROUTINE <input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 8/29/16	
TIME: 13:25	
BY: ELS	
SYSTEM NAME: GWMC	SYSTEM COMPONENT: ASLH
REASON FOR REPORT: FORCED SHUTDOWN TO TEST ALARMS AND FAX REPORTING	
REASON FOR SHUTDOWN: TEST ALARM SYSTEM & FAX REPORTING	
ACTION TAKEN: RESTART SYSTEM	
SHUTDOWN DATE & TIME: 8/29/16 12:52	
START-UP DATE & TIME: 8/29/16 13:25	
COMMENTS/SUGGESTIONS:	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 8.30.16	
TIME: 13:00	
BY: M.R. & E.S.	
SYSTEM NAME: GWMC	SYSTEM COMPONENT: SMPLS H
REASON FOR REPORT: System Down checking Sump High Auto Shutdown Switch	
REASON FOR SHUTDOWN:	
Checking Sump Alarm	
ACTION TAKEN: Restart System	
SHUTDOWN DATE & TIME: 8.30.16 @ 14:54	
START-UP DATE & TIME: 8.30.16 @ 15:10	
COMMENTS/SUGGESTIONS: Continue to check & maintain Sump Switch	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 9.7.16	
TIME: 15:55	
BY: MR	
SYSTEM NAME: GWML	SYSTEM COMPONENT: <del>SMP</del> <sup>SMP LSH</sup>
REASON FOR REPORT: Sump Kill switch Check	
REASON FOR SHUTDOWN: S.A.A.	
ACTION TAKEN: Restart System after clearing alarm	
SHUTDOWN DATE & TIME: 9.7.16 @ 15:30	
START-UP DATE & TIME: 9.7.16 @ 15:50	
COMMENTS/SUGGESTIONS:	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	



VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 7-12-16			
TIME: 0835			
BY: ELS			
SYSTEM NAME: GWMC	SYSTEM COMPONENT: ASLSHH		
REASON FOR REPORT: AUTOMATIC SHUTDOWN of System			
REASON FOR SHUTDOWN: ASLSHH Alarm Triggered			
ACTION TAKEN: Pumped down sight glass ; checked system			
Restarted system			
SHUTDOWN DATE & TIME: 7/16/16 14:45			
START-UP DATE & TIME: 7/19/16 09:00			
COMMENTS/SUGGESTIONS:			
REQUIRED REPORT NOTIFICATION PER SECTION 4.0			
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL	<input type="checkbox"/> ROUTINE	<input type="checkbox"/>
INDIVIDUAL NOTIFIED			
ACTION/RESPONSE			

VANDALIA - MIGRATION CONTROL SYSTEM  
OPERATIONS AND MAINTENANCE PLAN  
FIGURE 1 - SITE VISIT REPORT FORM

DATE: 9-23-16/9-30-16	
TIME: 1040	
BY: ELS/WJR	
SYSTEM NAME: GWMC	SYSTEM COMPONENT: Process 3
REASON FOR REPORT: Automatic shutdown of System	
REASON FOR SHUTDOWN: Recovery Well Pump Malfunctioning	
ACTION TAKEN: Checked breakers, Cleared Fault, Checked Vault of BR Pump. BR Pump Malfunction - No RESTART Replaced BR Pump; Restarted system	
SHUTDOWN DATE & TIME: 9/23/16 19:29	
START-UP DATE & TIME: 9/30/16 15:25	
COMMENTS/SUGGESTIONS: Changed out BR Pump 9/30/16	
REQUIRED REPORT NOTIFICATION PER SECTION 4.0	
IMMEDIATE	<input type="checkbox"/> NON-CRITICAL
	<input type="checkbox"/> ROUTINE
	<input type="checkbox"/>
INDIVIDUAL NOTIFIED	
ACTION/RESPONSE	

**Attachment G**  
**Project Schedule**

Project: MAHLE Behr Dayton LLC, Vandalia, OH

Task Split